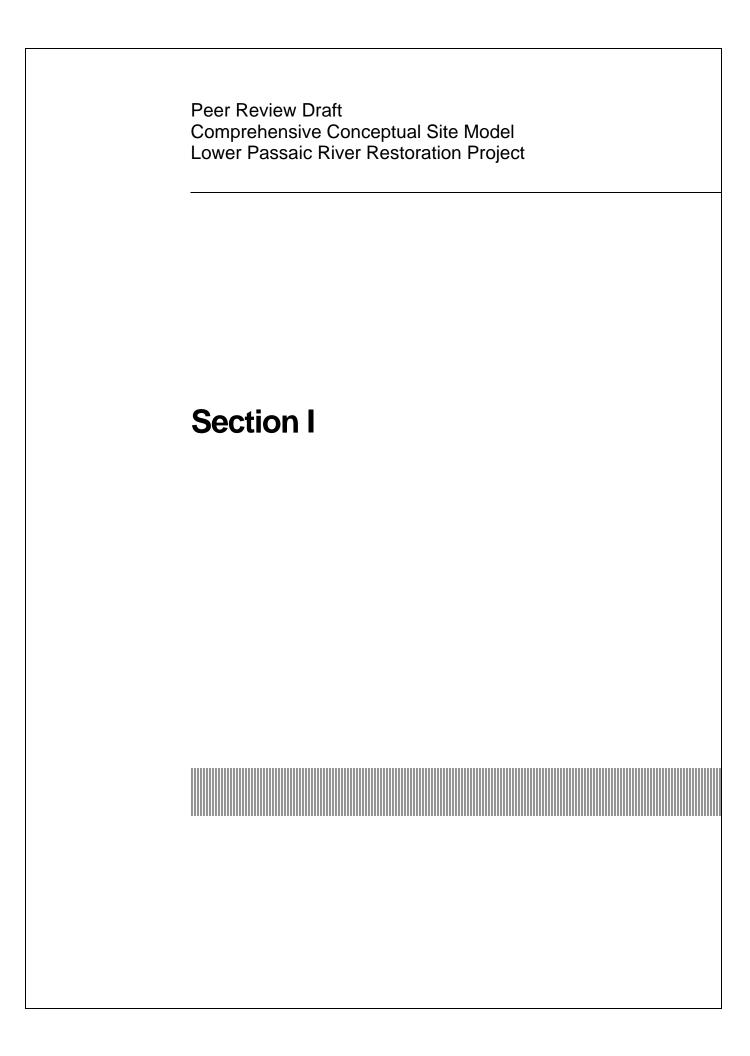
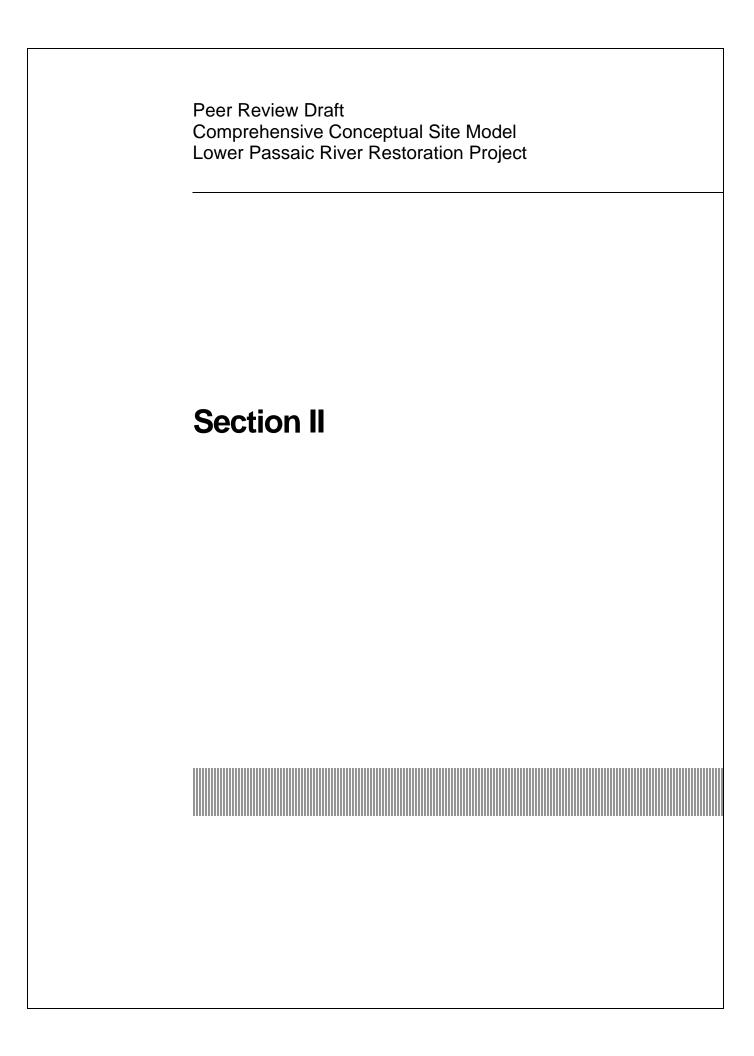
Peer Review Draft Comprehensive Conceptual Site Model Lower Passaic River Restoration Project **Figures** 

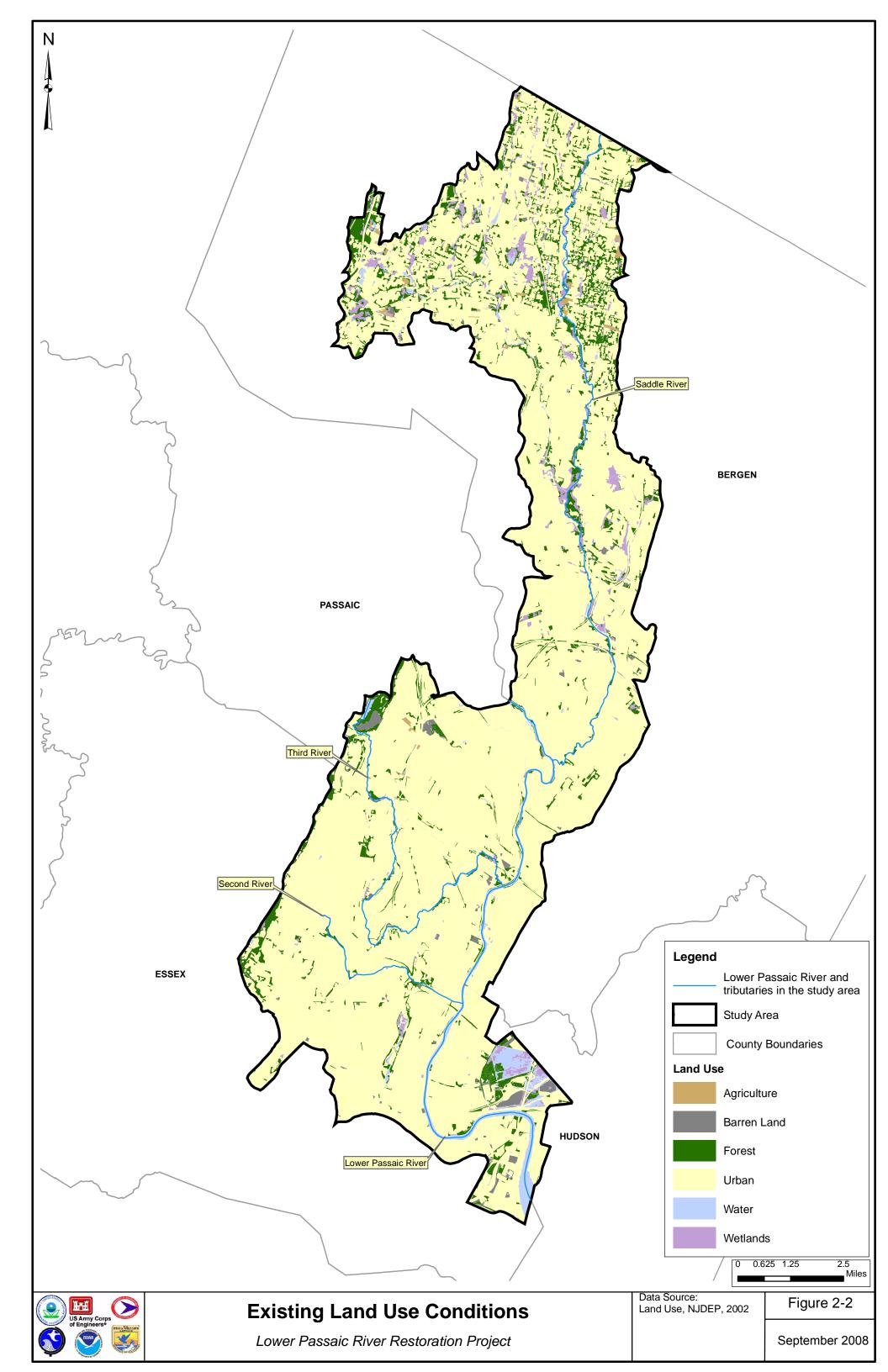


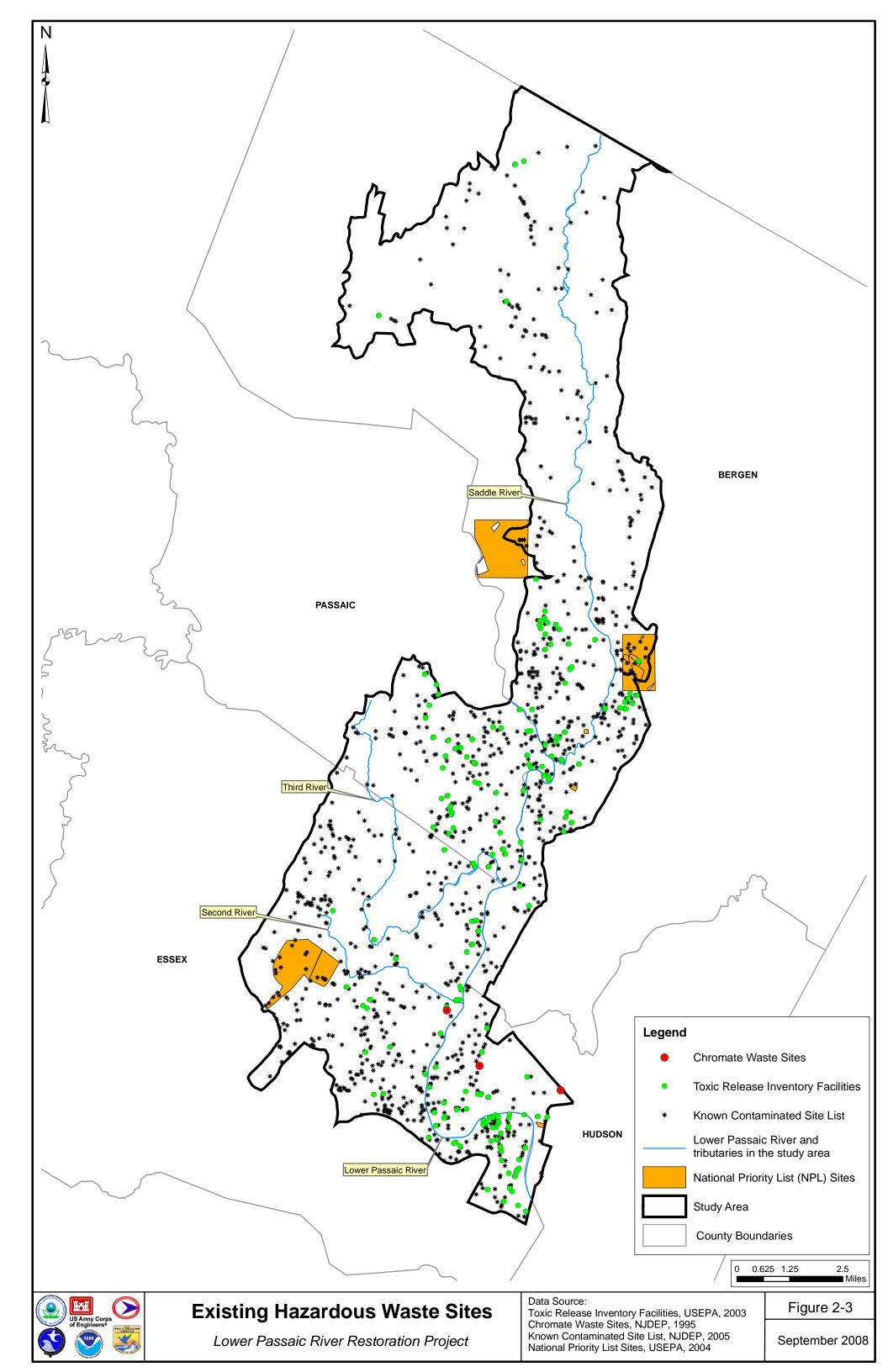
Chapter 1 Figures

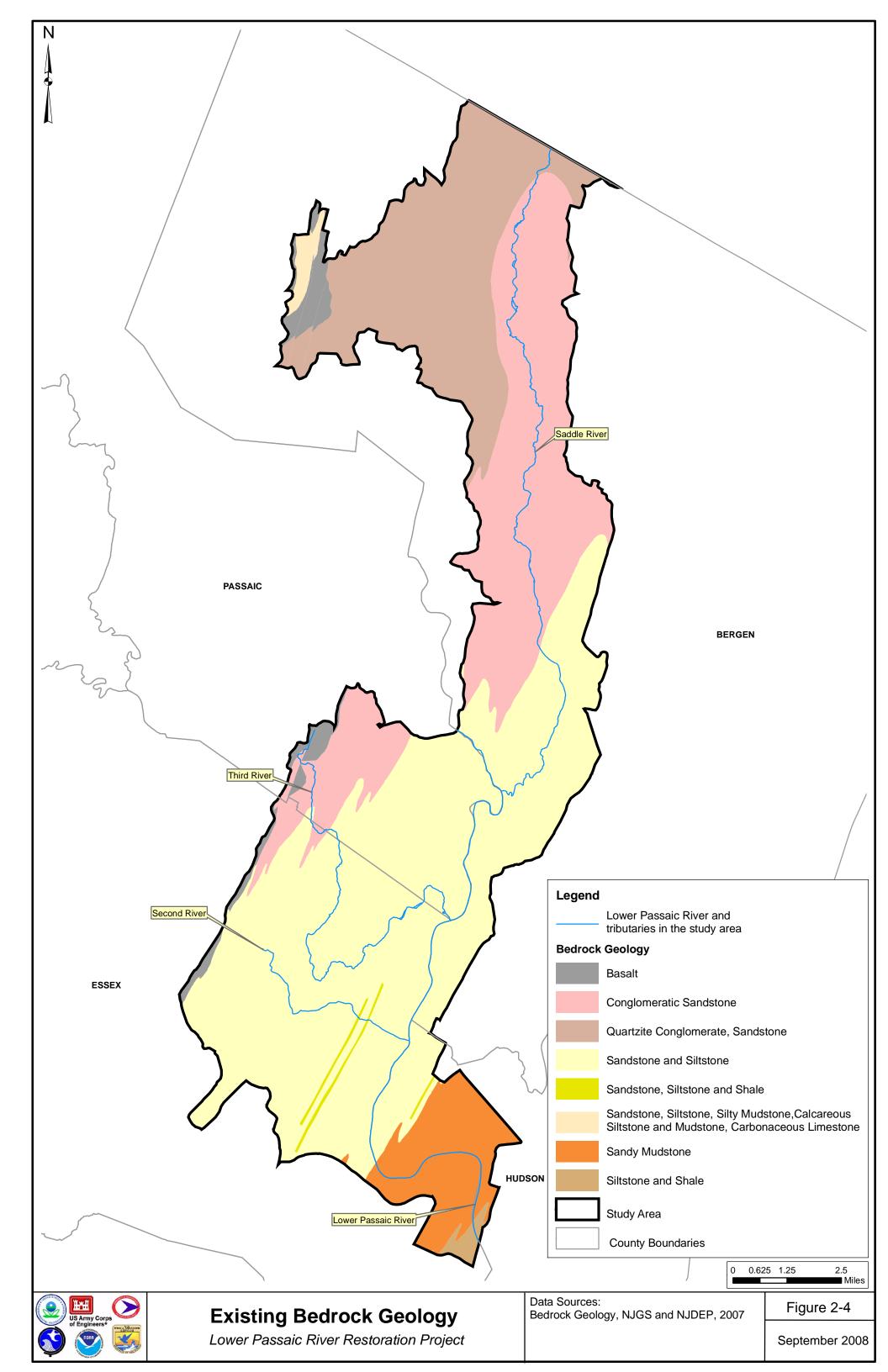


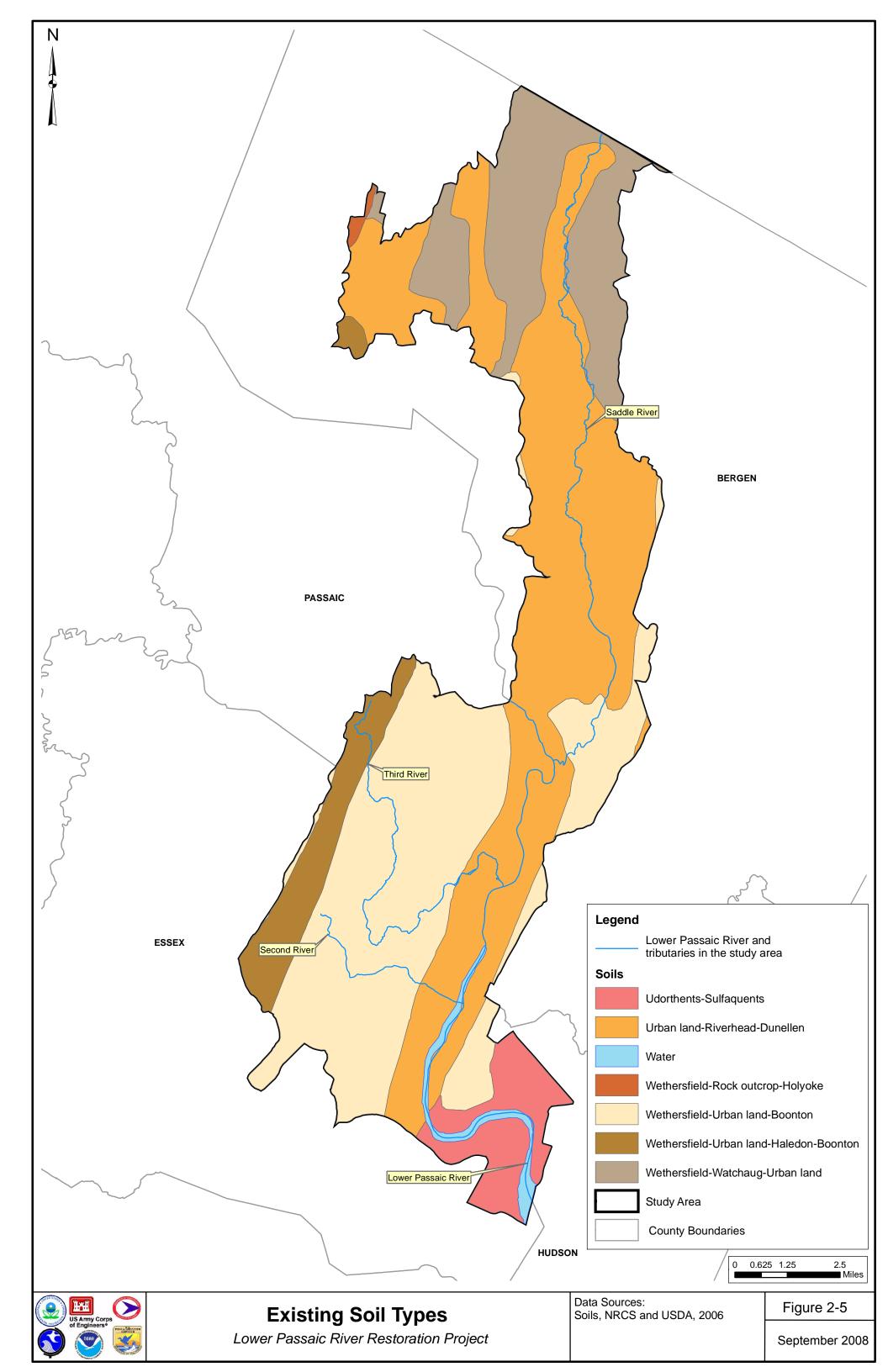
Chapter 2 Figures

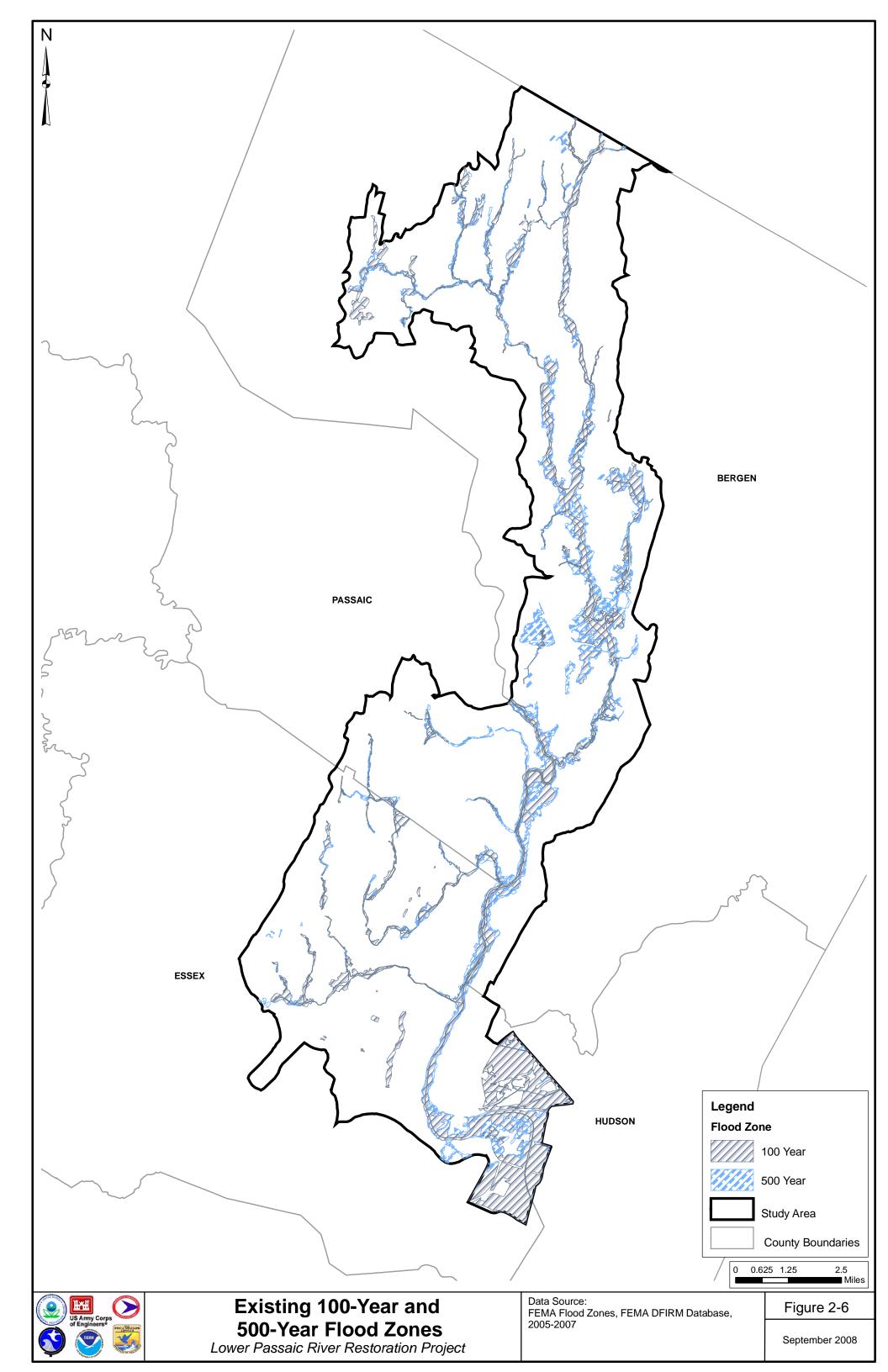














2004-2005 Field Reconnaissance at Kearny Point (looking south/southwest)



2004-2005 Field Reconnaissance at RM2.3



2004-2005 Field Reconnaissance at RM1.9 (looking southwest at Pulaski Skyway)



November 2006 Site Visit at RM2.3 (looking east at Point No Point Bridge)





November 2006 Site Visit at RM2.4 (looking north at NJ Turnpike Bridge)



November 2006 Site Visit at RM3.1 (looking south)



November 2006 Site Visit at RM2.6 (looking south)



November 2006 Site Visit at RM3.2 (looking south)



Figure 2-7b

Lower Passaic River Restoration Project



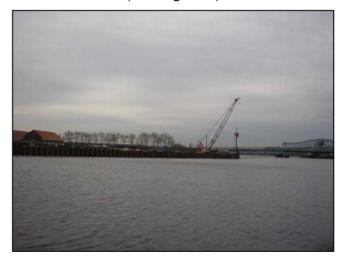
November 2006 Site Visit at RM3.4 (looking southwest)



November 2006 Site Visit at RM3.5 (looking southwest)



November 2006 Site Visit at RM3.5 (looking east)



November 2006 Site Visit at RM4.5 (looking northeast at Jackson Street Bridge)



Figure 2-7c

Lower Passaic River Restoration Project



November 2006 Site Visit at RM5 (looking southwest)



November 2006 Site Visit at RM6 (looking east)



November 2006 Site Visit at RM5.4 (looking north at Bridge Street Bridge)



2004-2005 Field Reconnaissance at RM6.2 (looking east)



Figure 2-7d



2004-2005 Field Reconnaissance at RM6.9 (looking east)



2004-2005 Field Reconnaissance at RM7.2 (looking east)



2004-2005 Field Reconnaissance at RM7.2 (looking east)

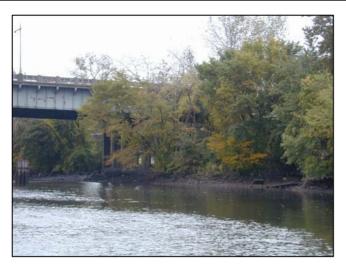


2004-2005 Field Reconnaissance at RM7.4 (looking east)



Figure 2-7e

Lower Passaic River Restoration Project



2004-2005 Field Reconnaissance at RM7.8 (looking east at Belleville Turnpike Bridge)



2004-2005 Field Reconnaissance at RM9.4 (looking east)



2004-2005 Field Reconnaissance at RM8.3 (looking east)



2004-2005 Field Reconnaissance at RM9.4 (looking east)



Figure 2-7f

Lower Passaic River Restoration Project



2004-2005 Field Reconnaissance at RM9.6 (looking east)



2004-2005 Field Reconnaissance at RM10.1 (looking east)



2004-2005 Field Reconnaissance at RM9.8 (looking east)



November 2006 Site Visit at RM10.4 (looking north at De Jesse Street Bridge)



Figure 2-7g



2004-2005 Field Reconnaissance at RM10.7 (looking east)



2004-2005 Field Reconnaissance at RM11.7 (looking east)



2004-2005 Field Reconnaissance at RM11.5 (looking east)



2004-2005 Field Reconnaissance at RM12.8 (looking west)



Figure 2-7h

Lower Passaic River Restoration Project



2004-2005 Field Reconnaissance at RM12.9 (looking east)



2004-2005 Field Reconnaissance at RM14.2 (looking east)



2004-2005 Field Reconnaissance at RM12.9 (looking east)



2004-2005 Field Reconnaissance at RM14.3

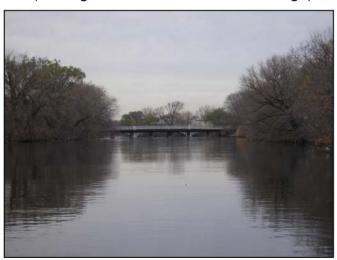


Figure 2-7i

Lower Passaic River Restoration Project



November 2006 Site Visit at RM15.8 (looking south at Passaic Street Bridge)



November 2006 Site Visit at RM15.9 (looking north at Monroe Street Bridge)



2004-2005 Field Reconnaissance at RM15.9 (looking north at Monroe Street Bridge)



2004-2005 Field Reconnaissance at RM15.9 (looking northeast)



Figure 2-7j



November 2006 Site Visit at RM15.9 (looking northeast)



2004-2005 Field Reconnaissance at Island at RM16.5 (looking west)



2004-2005 Field Reconnaissance at RM16



2004-2005 Field Reconnaissance at RM16.5 (looking east from road)



Figure 2-7k

Lower Passaic River Restoration Project



2004-2005 Field Reconnaissance at RM17.2 (looking east)



2004-2005 Field Reconnaissance at RM17.4 (near Dundee Dam)



2004-2005 Field Reconnaissance at RM17.2

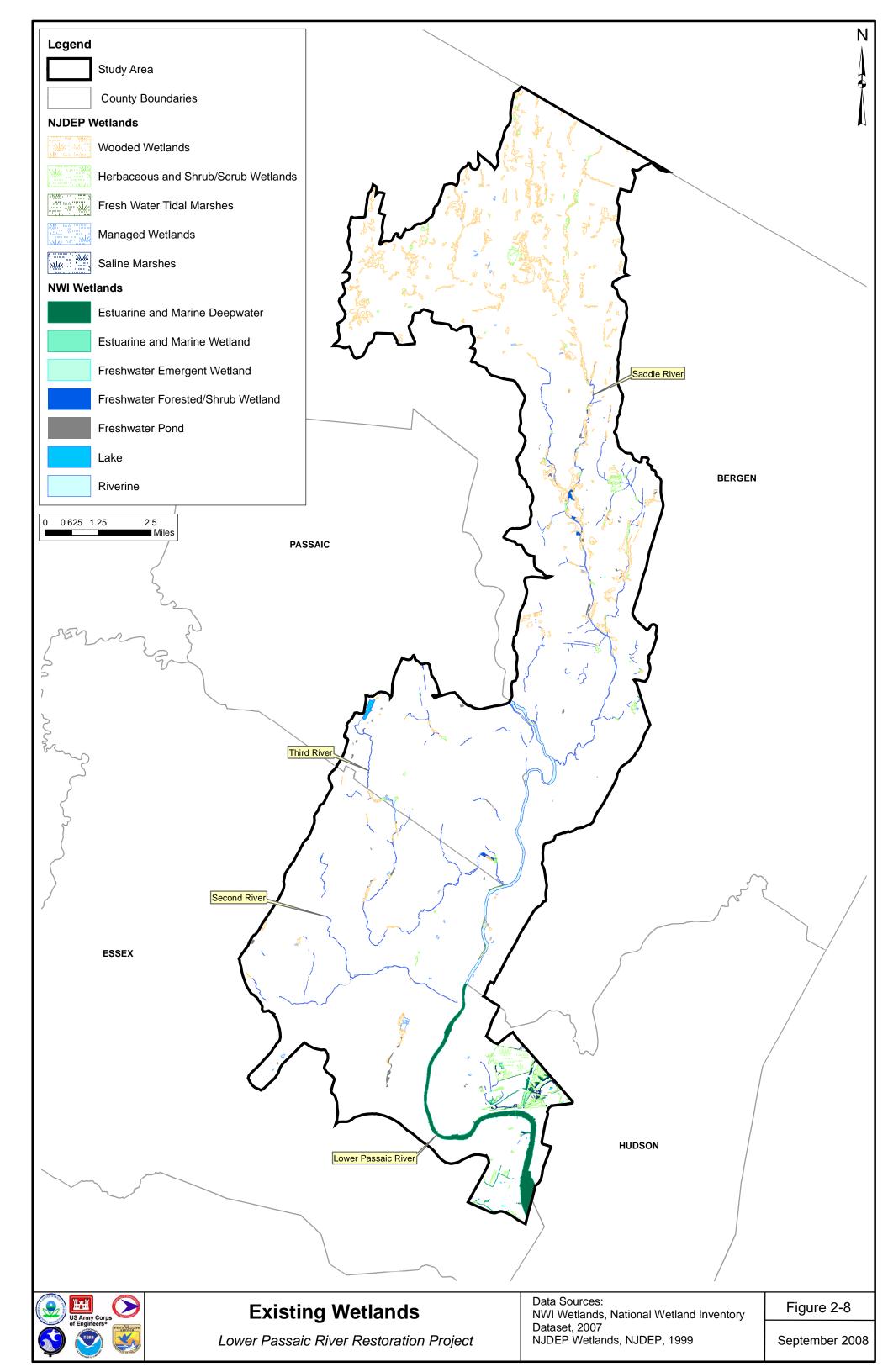


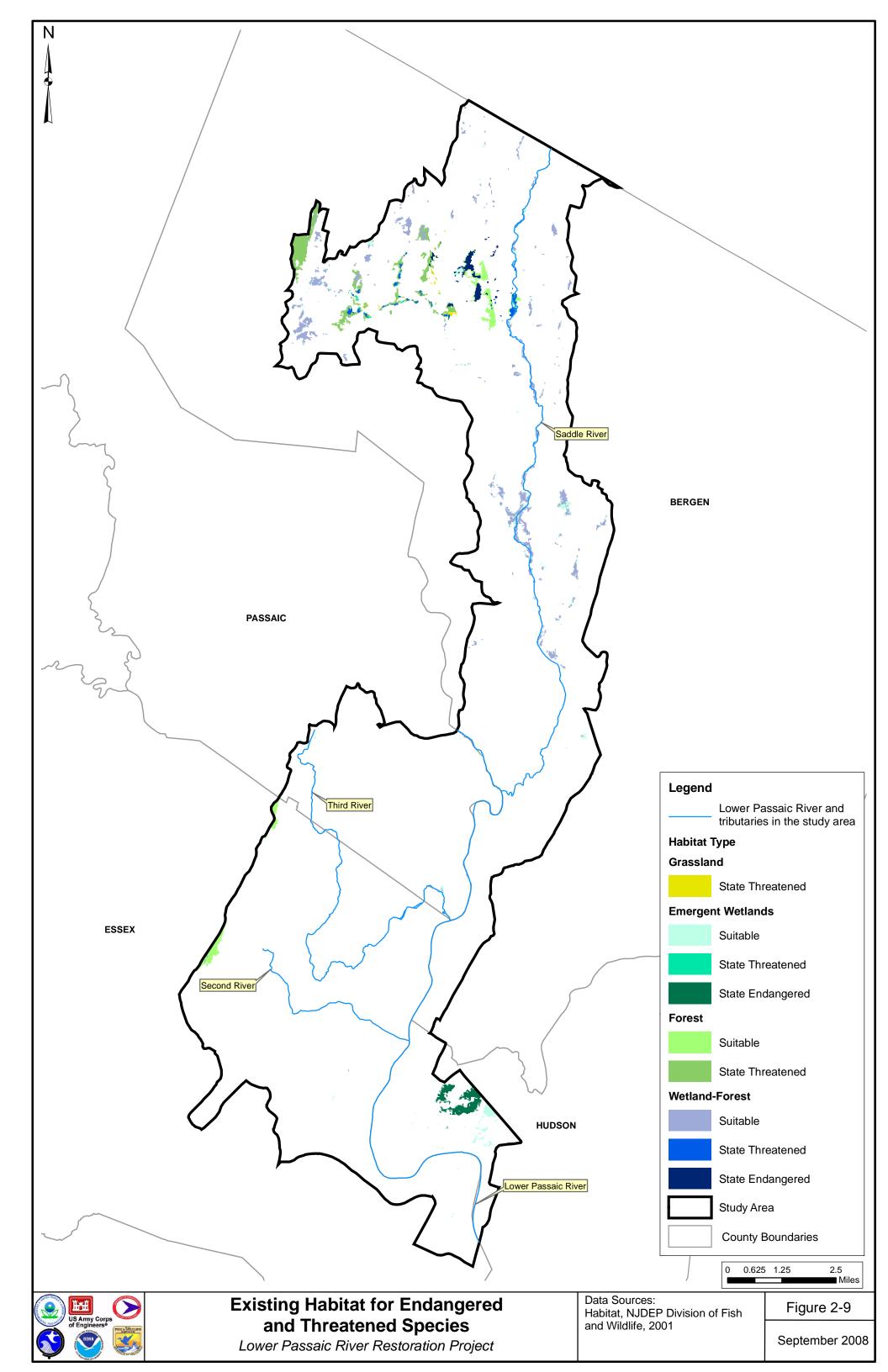
2004-2005 Field Reconnaissance at RM 17.4 (near Dundee Dam)



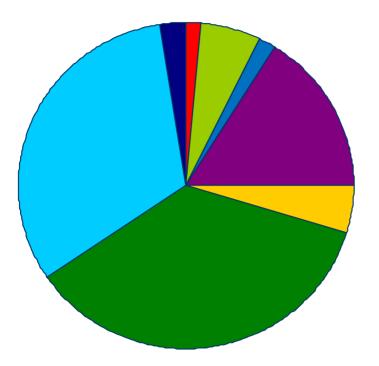
Figure 2-7I

Lower Passaic River Restoration Project





### 1999 Field Data





Atlantic Menhaden

Gizzard Shad

Striped Bass

White Perch

American Eel

Blue Crab

Mummichog (killifish)

Other Species

#### **Notes**

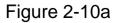
Demersal and Pelagic Fish from RM1 to RM7. Excludes incidental catch for each gear types (e.g., silversides in gill nets).

Data Source: TSI (2002) as cited in Earth Tech, Inc. and Malcolm Pirnie, Inc., 2004.

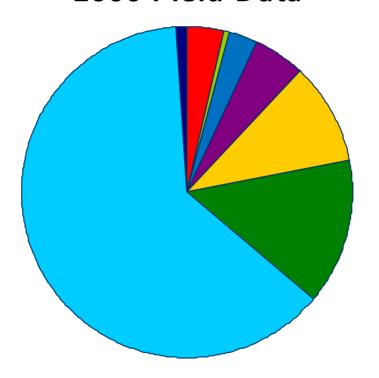


Existing Fish Communities in the Lower Passaic River

Lower Passaic River Restoration Project



## 2000 Field Data





Atlantic Menhaden

Gizzard Shad

Striped Bass

White Perch

Inland Silverside

Blue Crab

Mummichog (killifish)

Other

#### **Notes**

Demersal and Pelagic Fish from RM1 to RM7. Excludes incidental catch for each gear types (e.g., silversides in gill nets).

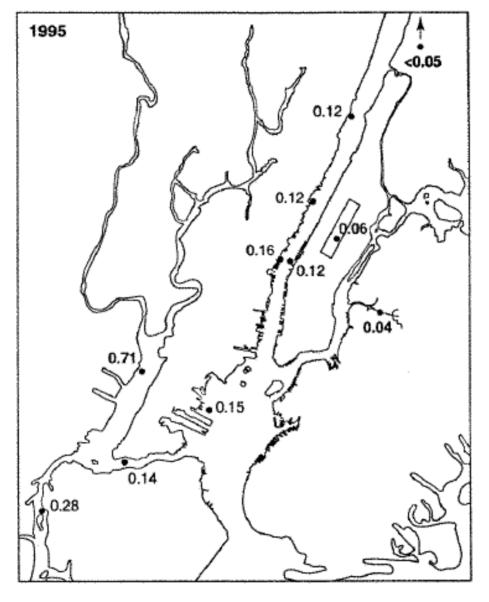
Data Source: TSI (2002) as cited in Earth Tech, Inc. and Malcolm Pirnie, Inc., 2004.



Existing Fish Communities in the Lower Passaic River

Lower Passaic River Restoration Project

Figure 2-10b



### Legend

• 2,3,7,8-TCDD/Total TCDD Ratio

#### **Notes**

Chaky DA, 2003.

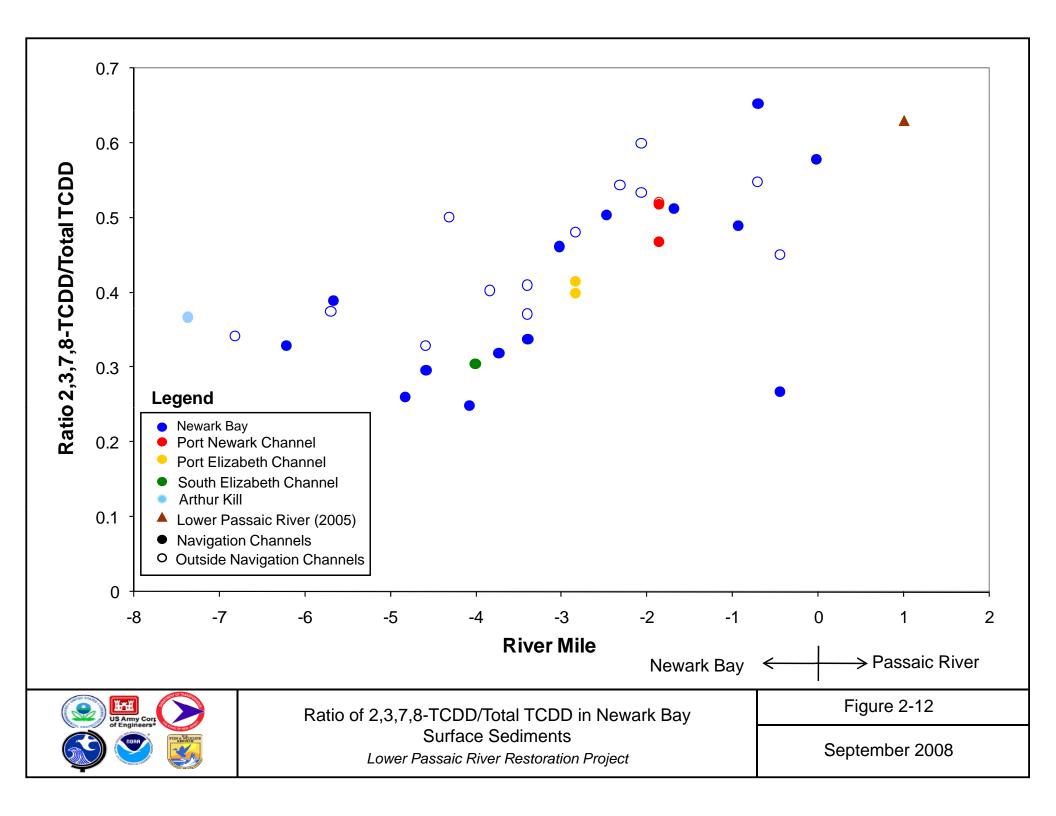
"Polychlorinated Biphenyls,
Polychlorinated Dibenzo-pDioxins and Furans in the New
York Metropolitan Area;
Interpreting Atmospheric
Deposition and Sediment
Chronologies." PhD Thesis,
Rensselaer Polytechnic
Institute, Troy, NY. August
2003.

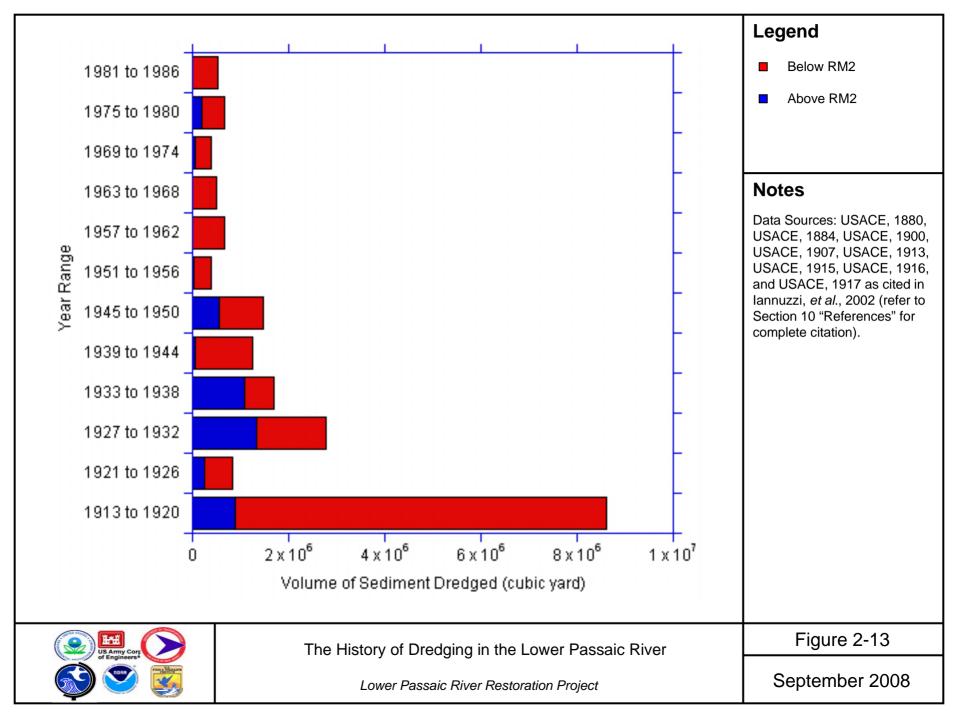


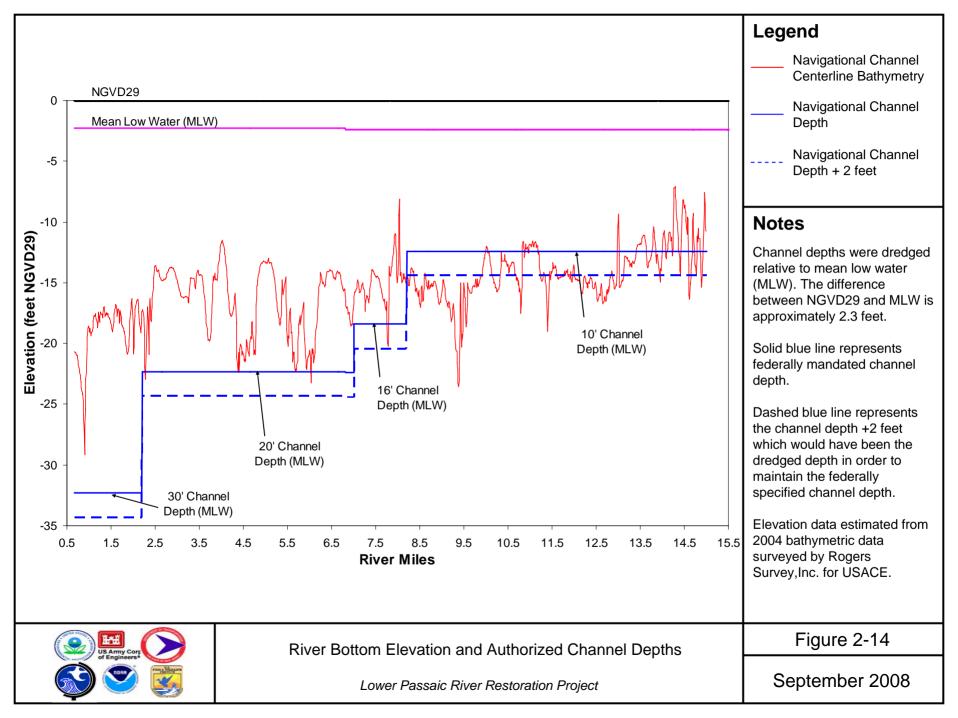
Reprint from Chaky (2003): Ratio of 2,3,7,8-TCDD/Total TCDD in the New York-New Jersey Harbor Estuary in 1995

Lower Passaic River Restoration Project

Figure 2-11

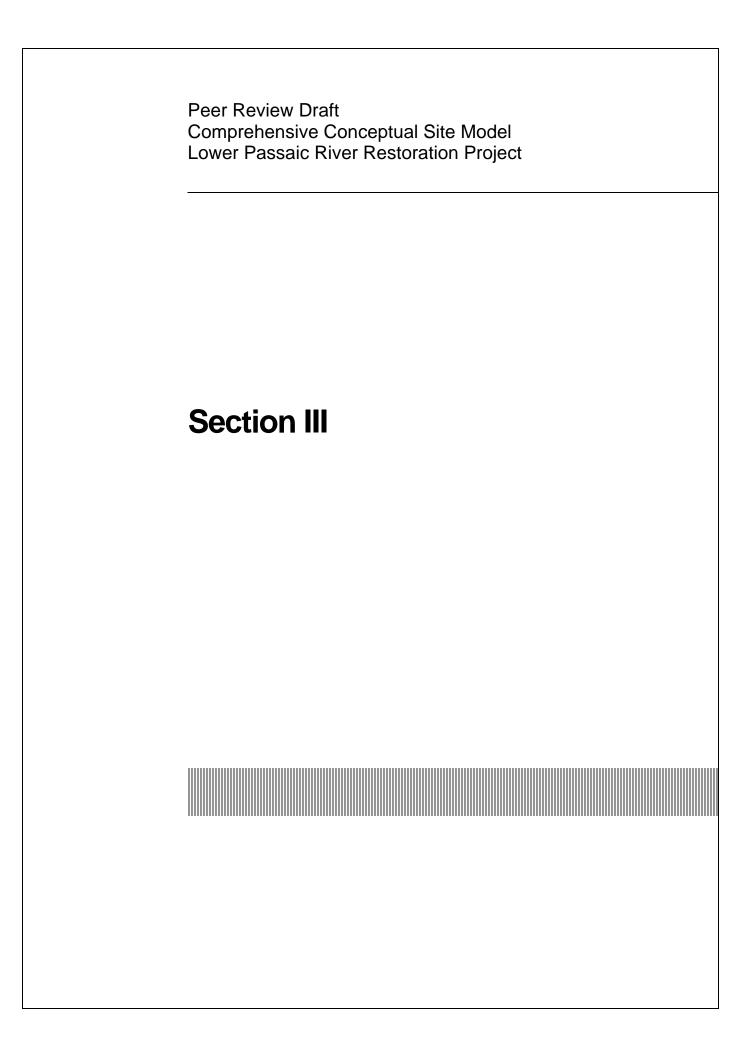




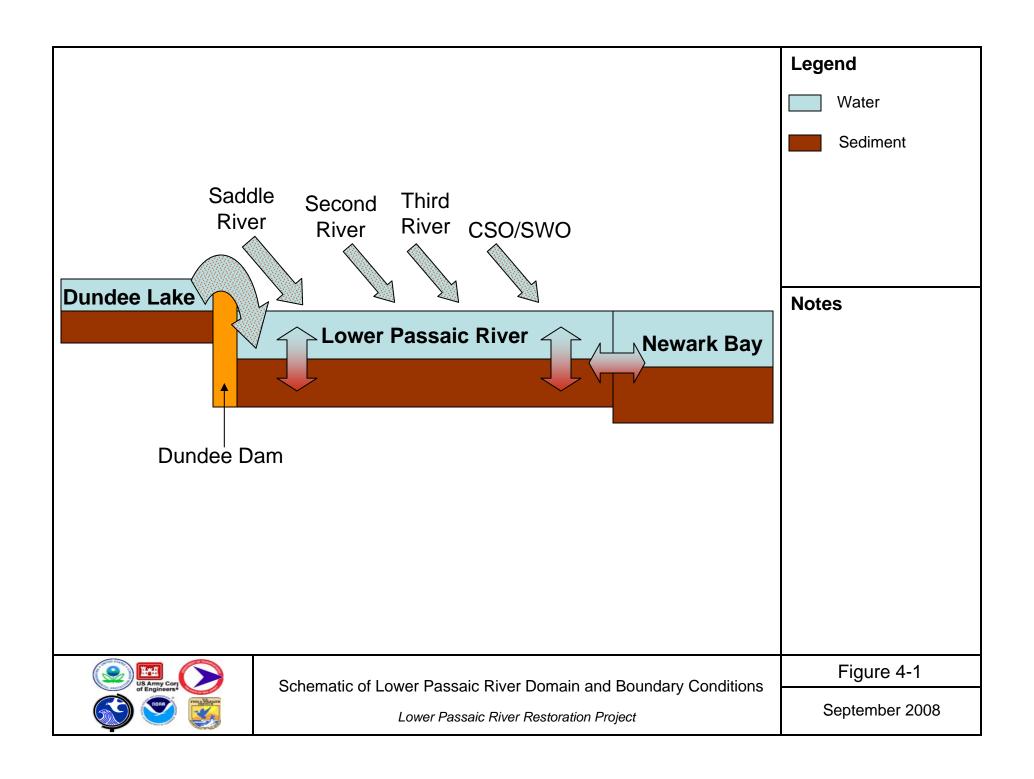


# Chapter 3 Figures

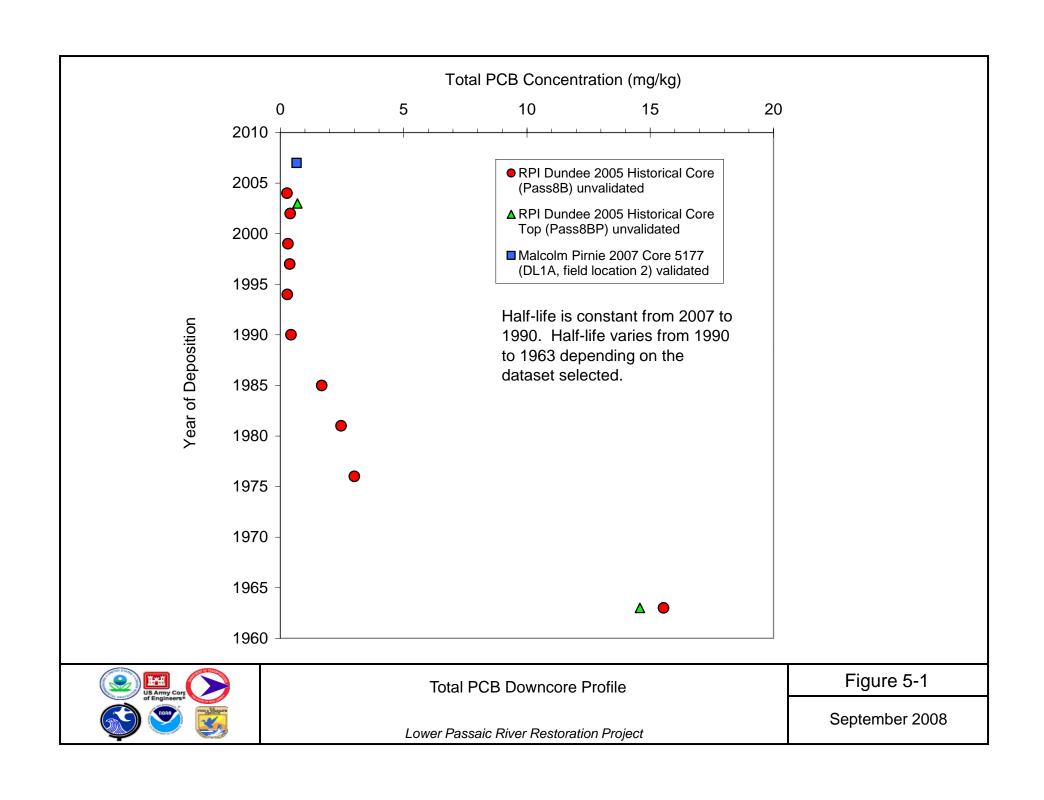
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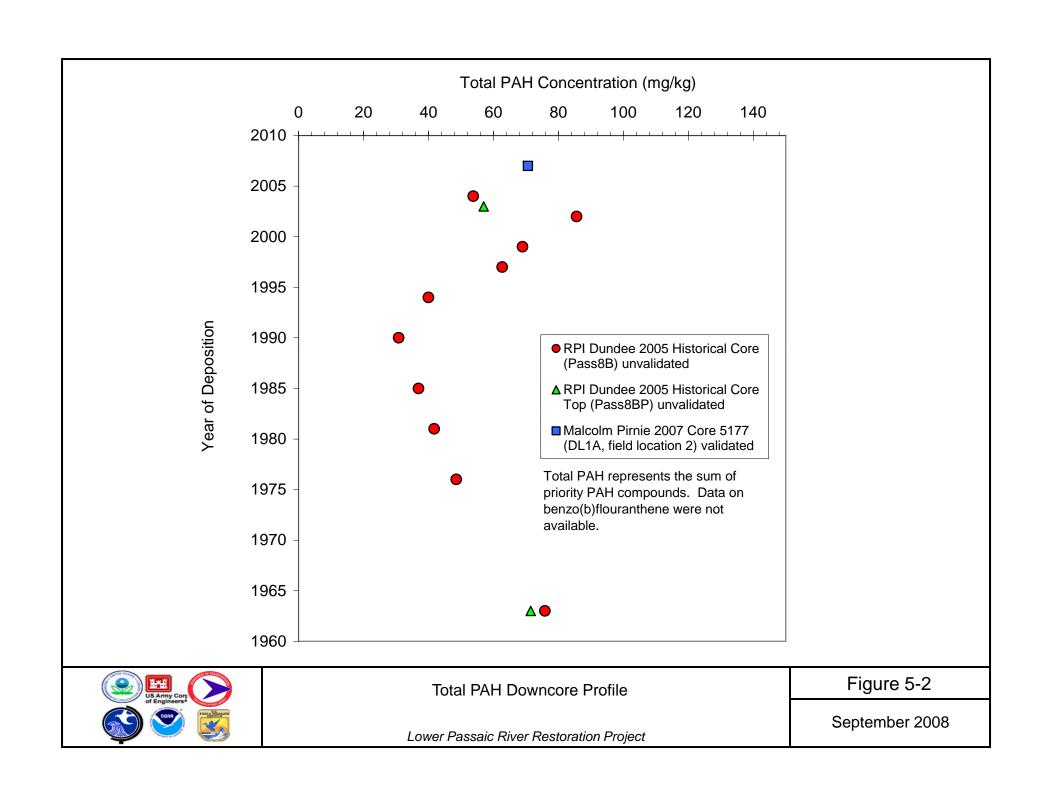


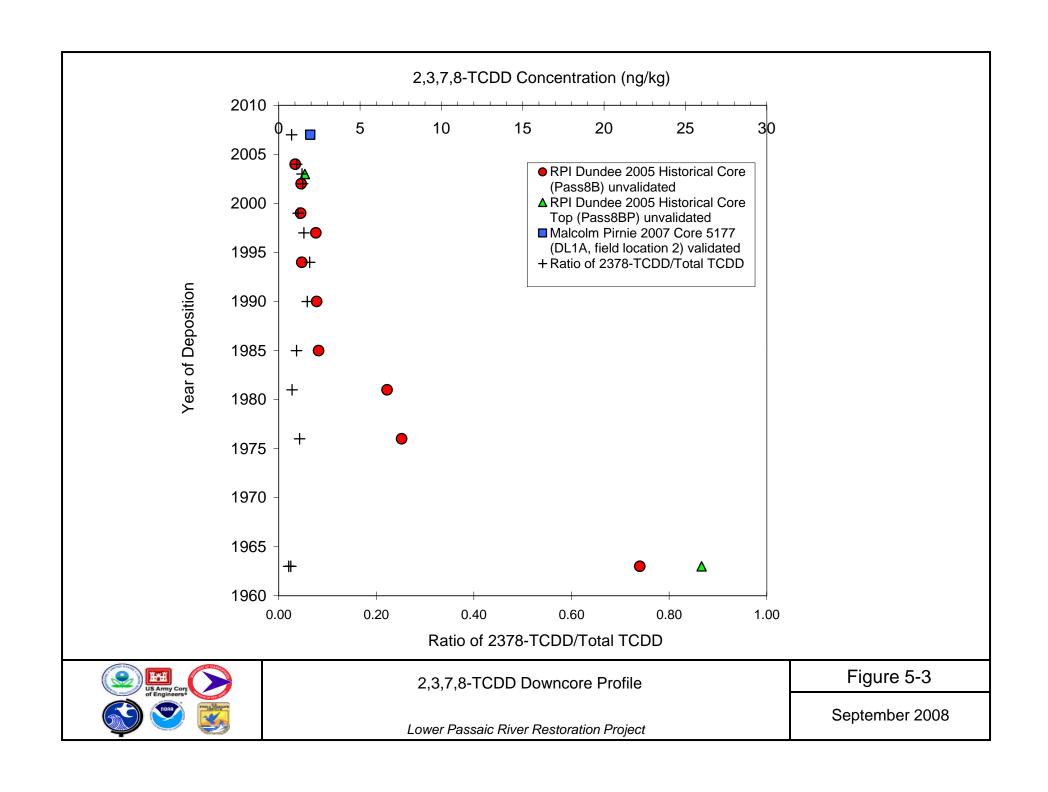
Chapter 4 Figures

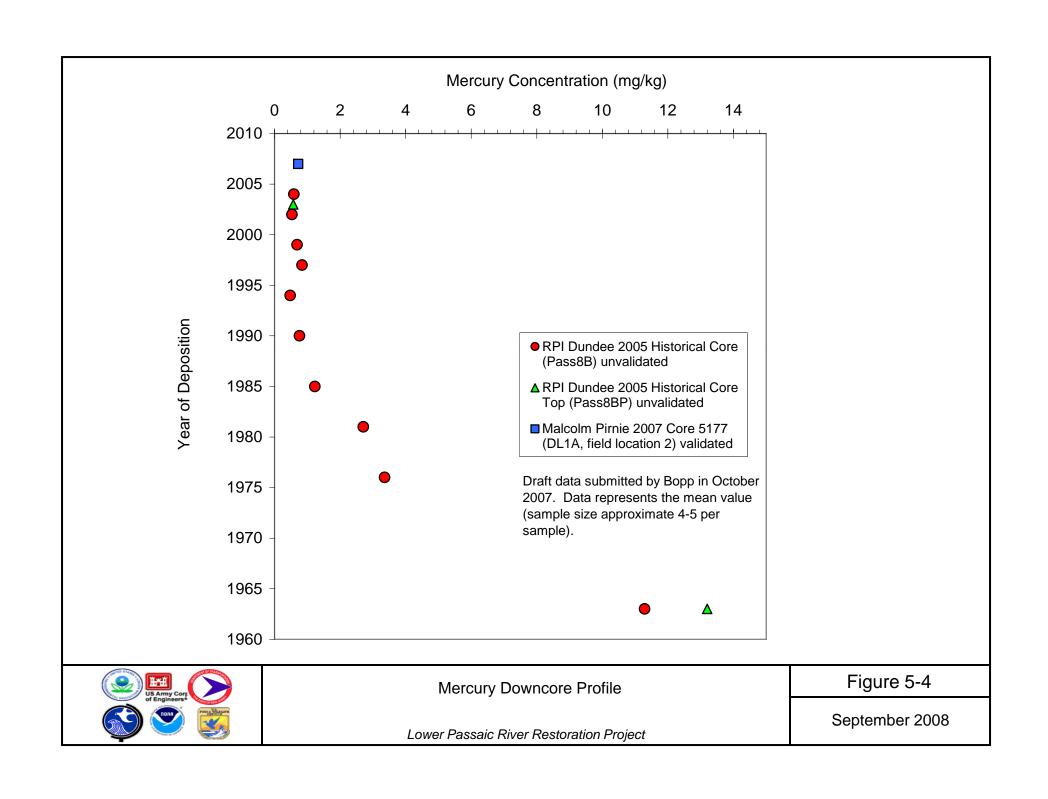


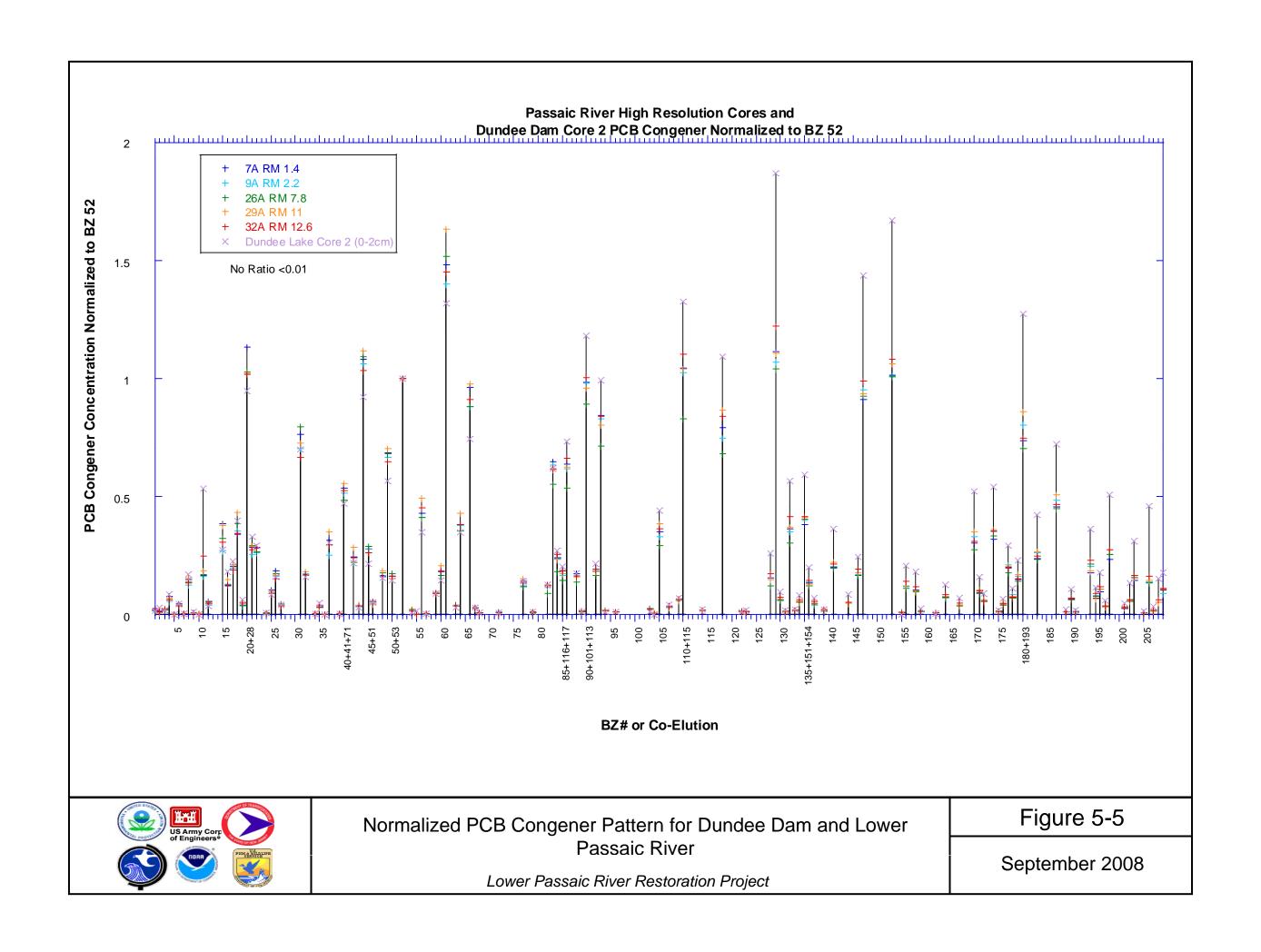
Chapter 5 Figures







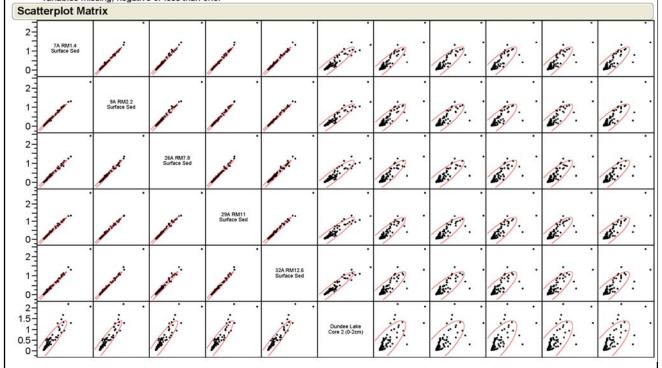




#### Multivariate Correlations

	7A RM1.4 Surface Sediment	9A RM2.2 Surface Sediment	26A RM7.8 Surface Sediment	29A RM11 Surface Sediment	32A RM12.6 Surface Sediment	Dundee Lake Core 2 (0-2cm)	NB01SED03 1 (RM 3.03)	NB01SED03 0 (RM 3.4)	NB01SED02 4 (RM 4.01)	NB01SED02 1 (RM 4.08)	NB01SED01 7 (RM 4.59)
7A RM1.4 Surface Sediment	1.0000	0.9979	0.9964	0.9973	0.9967	0.9348	0.9167	0.8917	0.8755	0.8862	0.8802
9A RM2.2 Surface Sediment	0.9979	1.0000	0.9951	0.9968	0.9977	0.9467	0.8973	0.8710	0.8524	0.8629	0.8575
26A RM7.8 Surface Sediment	0.9964	0.9951	1.0000	0.9962	0.9922	0.9291	0.9119	0.8873	0.8718	0.8845	0.8774
29A RM11 Surface Sediment	0.9973	0.9968	0.9962	1.0000	0.9954	0.9346	0.9046	0.8787	0.8614	0.8731	0.8650
32A RM12.6 Surface Sediment	0.9967	0.9977	0.9922	0.9954	1.0000	0.9555	0.8931	0.8658	0.8467	0.8573	0.8525
Dundee Lake Core 2 (0-2cm)	0.9348	0.9467	0.9291	0.9346	0.9555	1.0000	0.8000	0.7711	0.7475	0.7531	0.7582
NB01SED031 (RM 3.03)	0.9167	0.8973	0.9119	0.9046	0.8931	0.8000	1.0000	0.9965	0.9943	0.9952	0.9938
NB01SED030 (RM 3.4)	0.8917	0.8710	0.8873	0.8787	0.8658	0.7711	0.9965	1.0000	0.9972	0.9961	0.9965
NB01SED024 (RM 4.01)	0.8755	0.8524	0.8718	0.8614	0.8467	0.7475	0.9943	0.9972	1.0000	0.9978	0.9980
NB01SED021 (RM 4.08)	0.8862	0.8629	0.8845	0.8731	0.8573	0.7531	0.9952	0.9961	0.9978	1.0000	0.9976
NB01SED017 (RM 4.59)	0.8802	0.8575	0.8774	0.8650	0.8525	0.7582	0.9938	0.9965	0.9980	0.9976	1.0000

105 rows not used due to missing or excluded values or frequency or weight variables missing, negative or less than one.









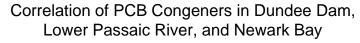
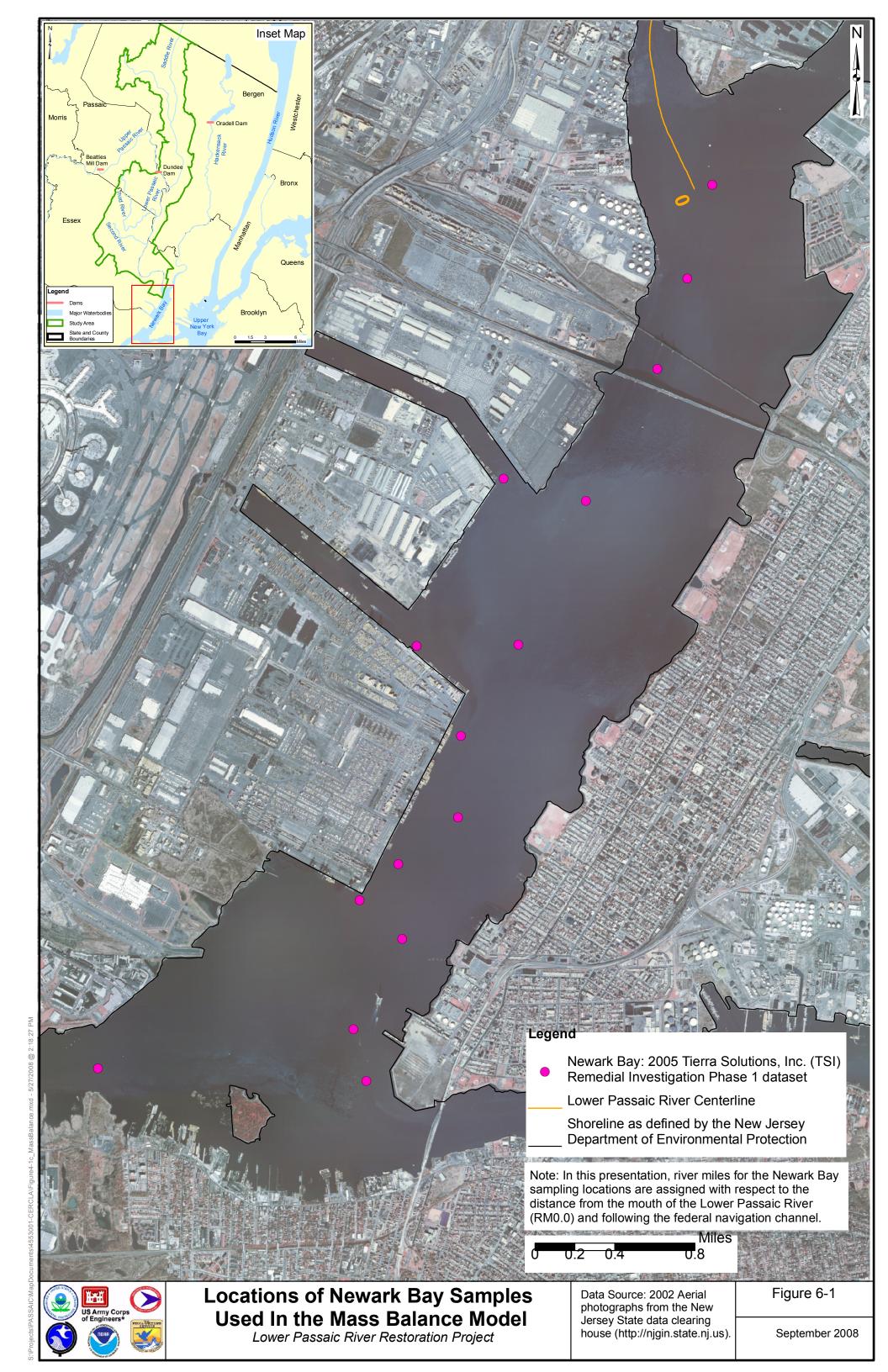
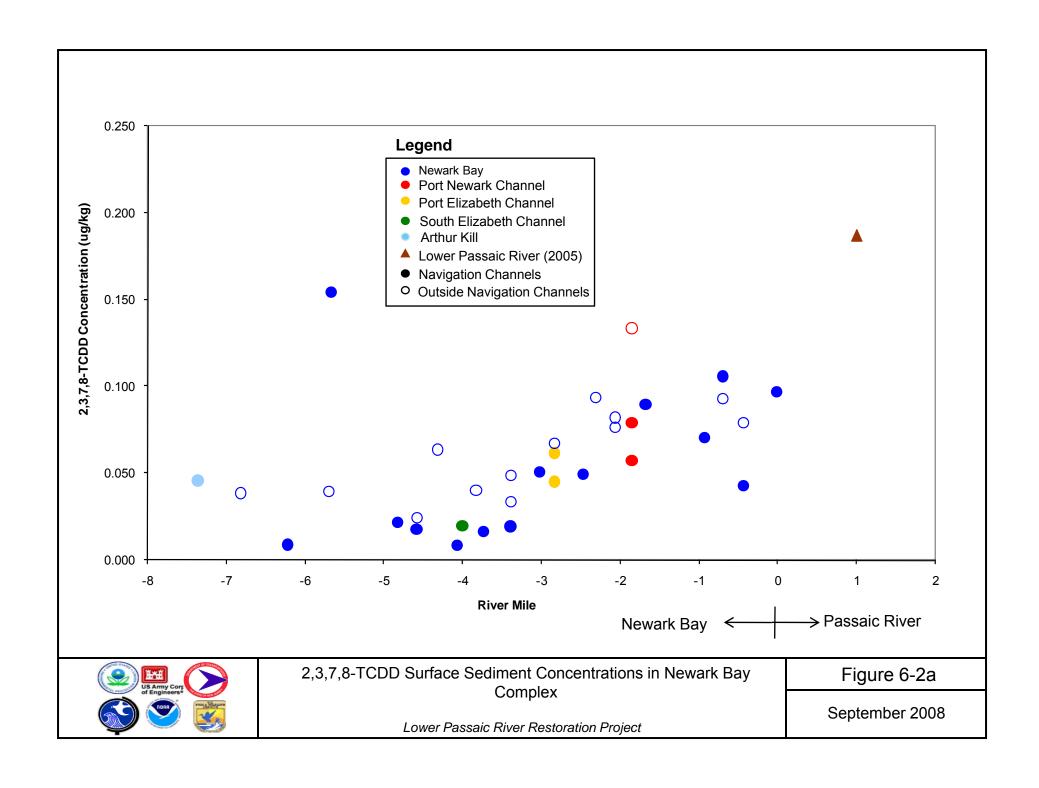


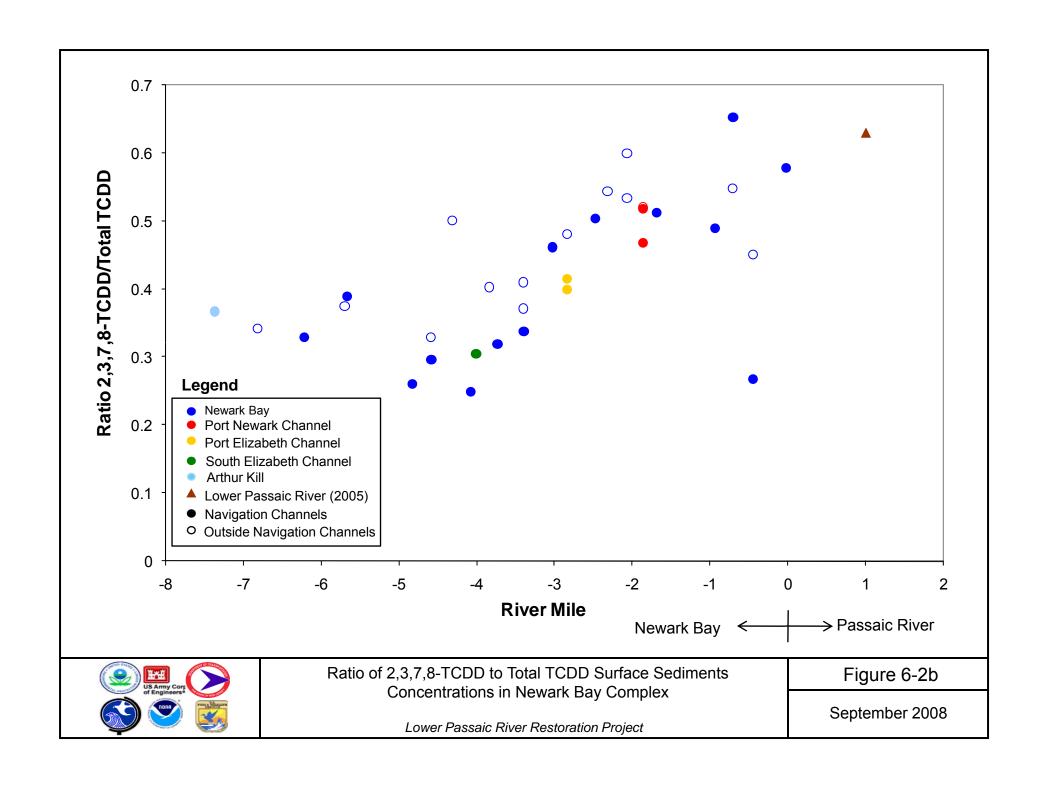
Figure 5-6

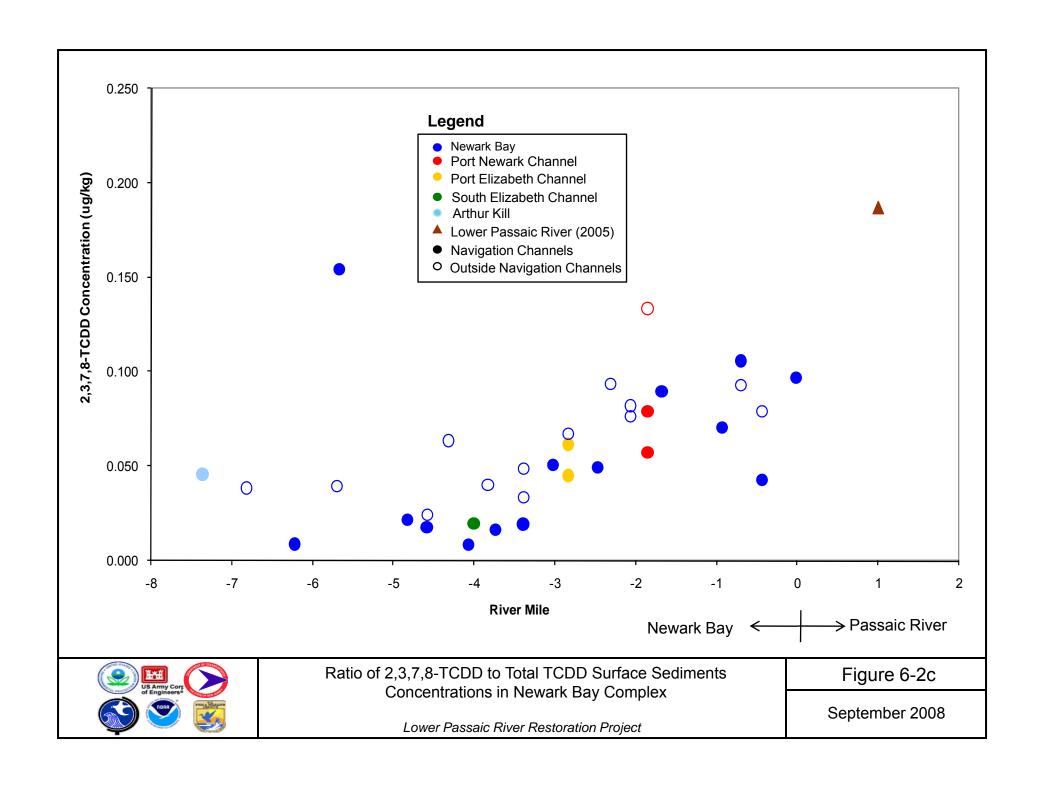
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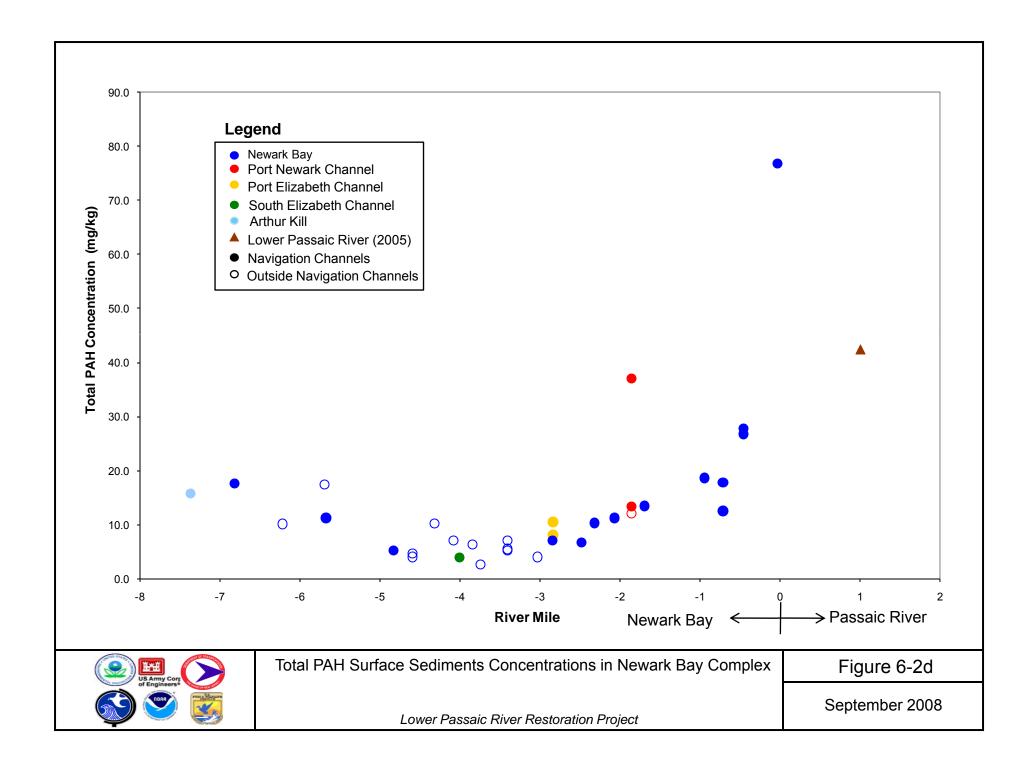
Chapter 6 Figures

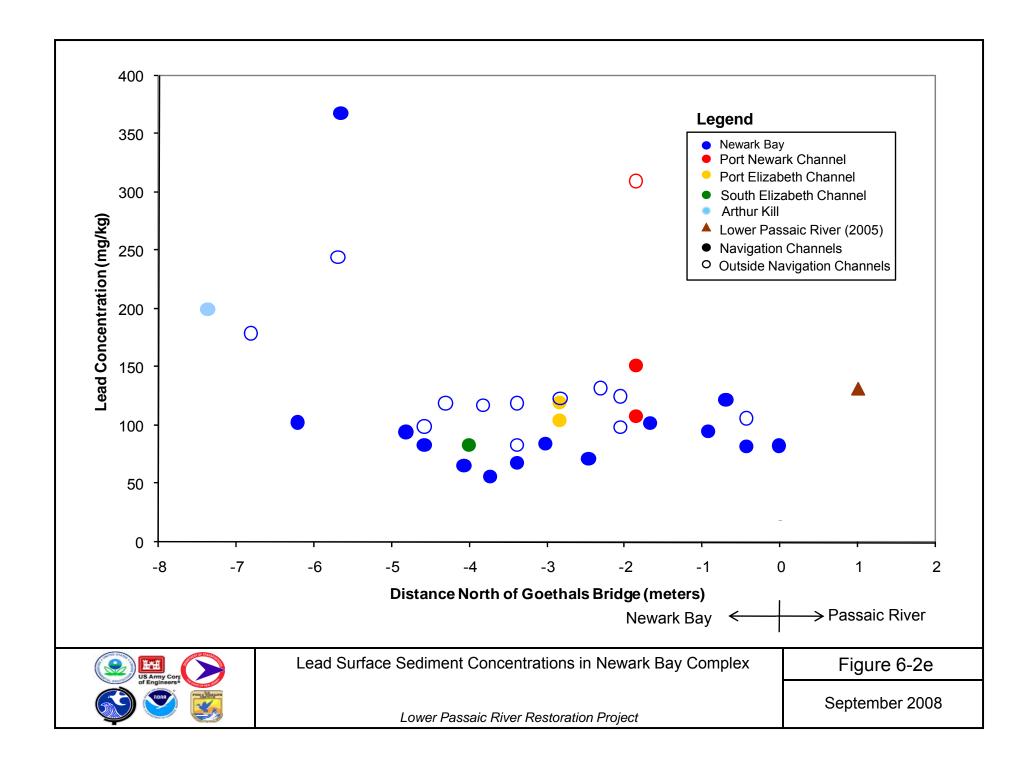


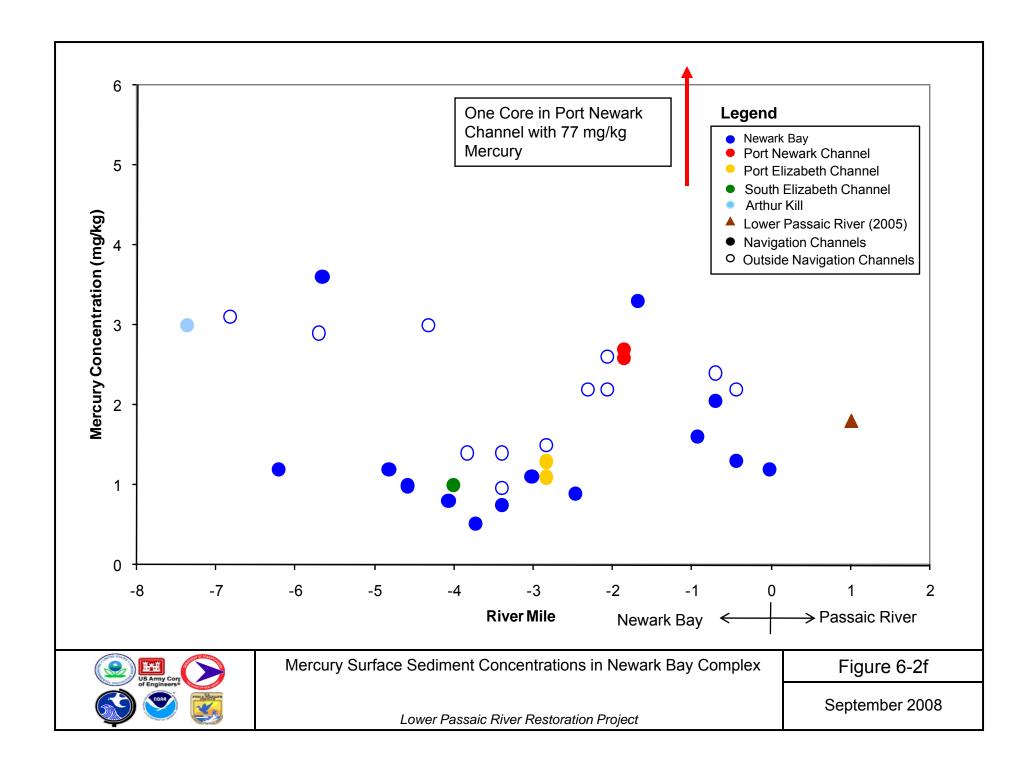








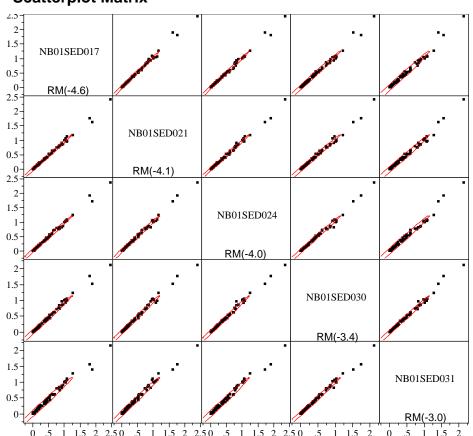




#### **Multivariate Correlations**

	NB01SED017 RM(-4.6)	NB01SED021 RM(-4.1)	NB01SED024 RM(-4.0)	NB01SED030 RM(-3.4)	NB01SED031 RM(-3.0)
NB01SED017 RM(-4.6)	1.0000	0.9978	0.9976	0.9961	0.9931
NB01SED021 RM(-4.1)	0.9978	1.0000	0.9976	0.9962	0.9941
NB01SED024 RM(-4.0)	0.9976	0.9976	1.0000	0.9969	0.9934
NB01SED030 RM(-3.4)	0.9961	0.9962	0.9969	1.0000	0.9964
NB01SED031 (-3.0)	0.9931	0.9941	0.9934	0.9964	1.0000

### **Scatterplot Matrix**



# Legend

**PCB** Congeners Concentration Normalized to Congener 52

## **Notes**

In this presentation, river miles for the Newark Bay sampling locations are assigned with respect to the distance from the mouth of the Lower Passaic River (RM0.0) and following the federal navigation channel.

Data Source: 2005 Tierra Solutions, Inc. (TSI) Remedial Investigation Phase 1 dataset





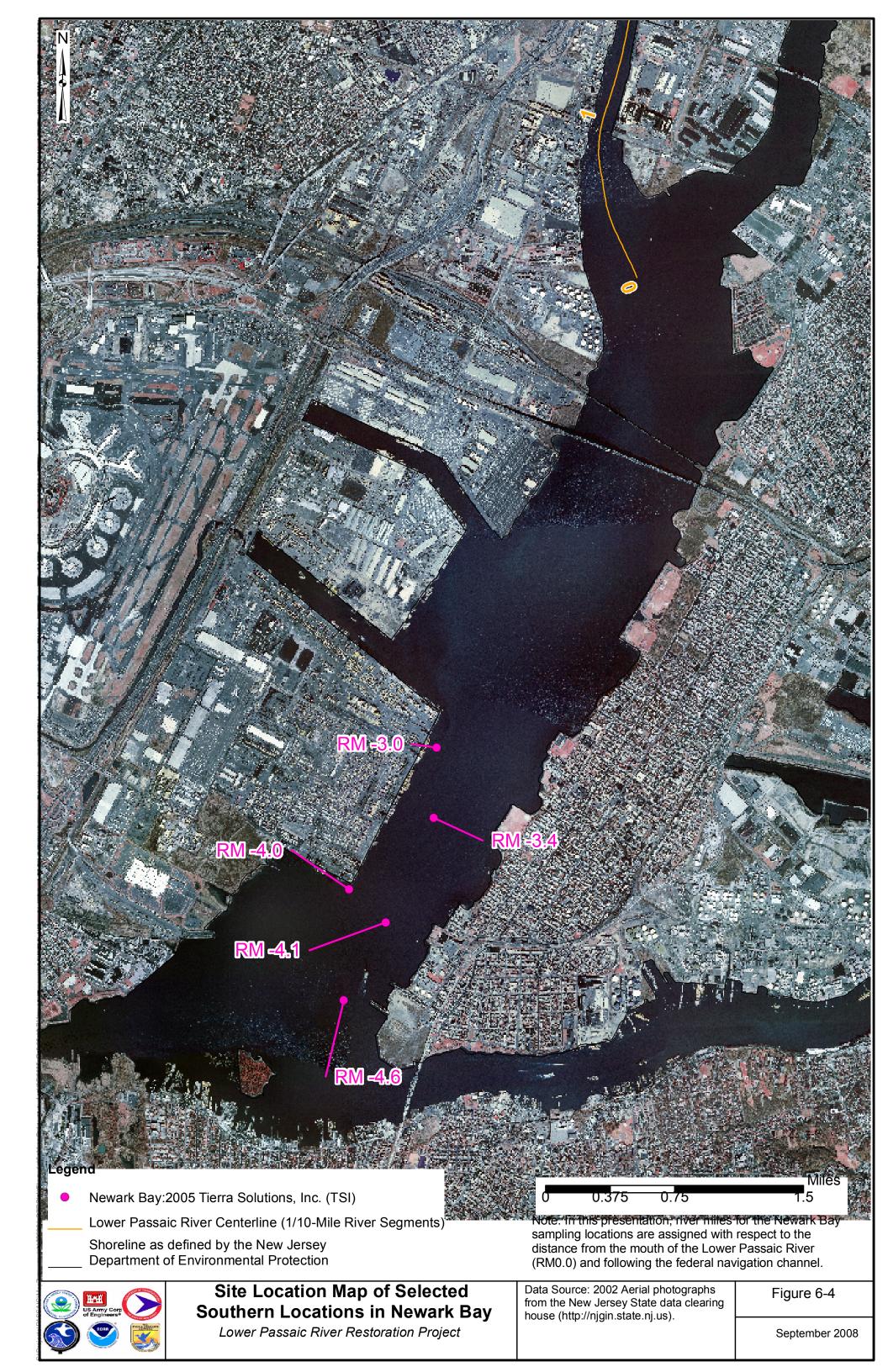


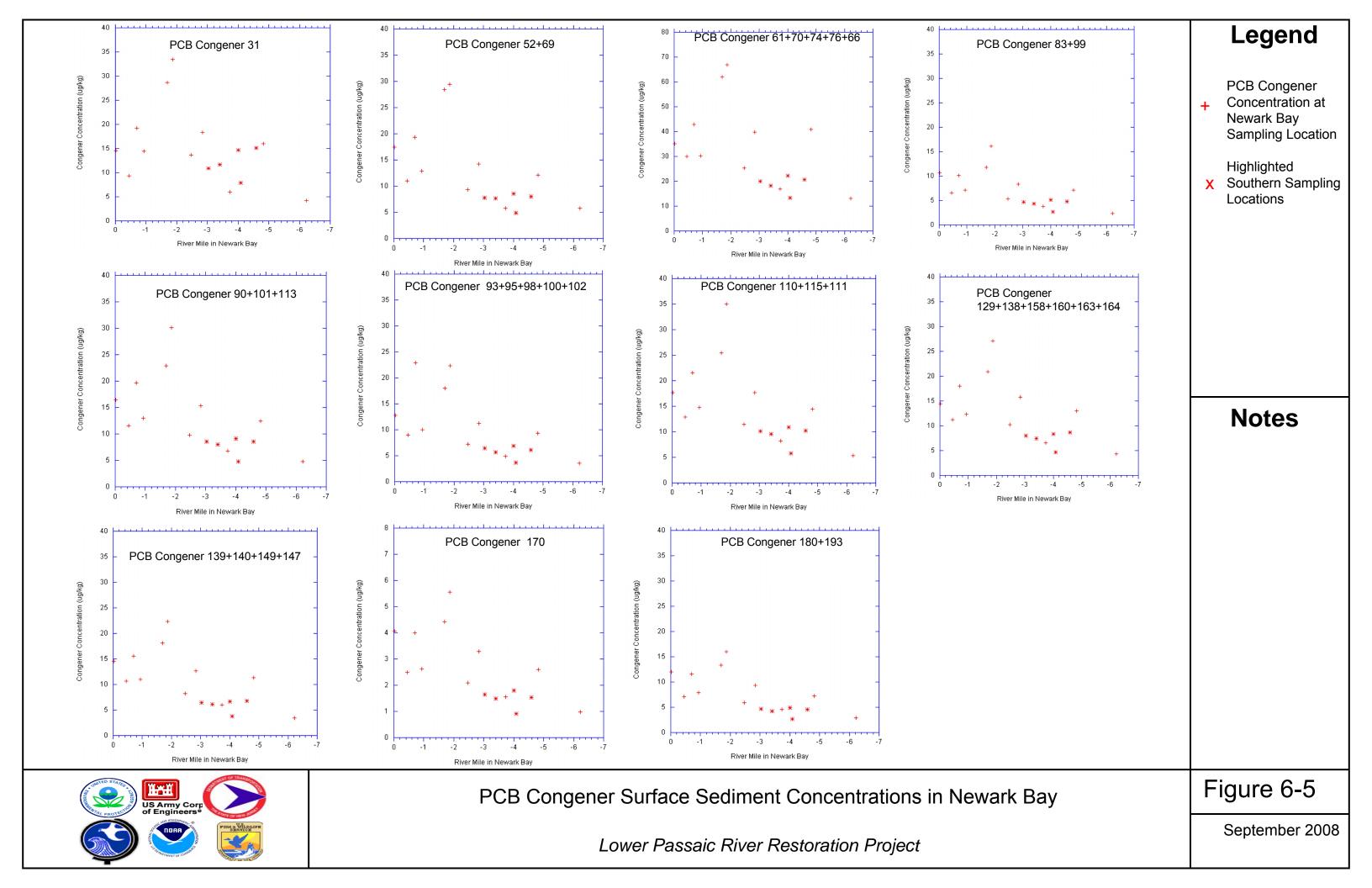


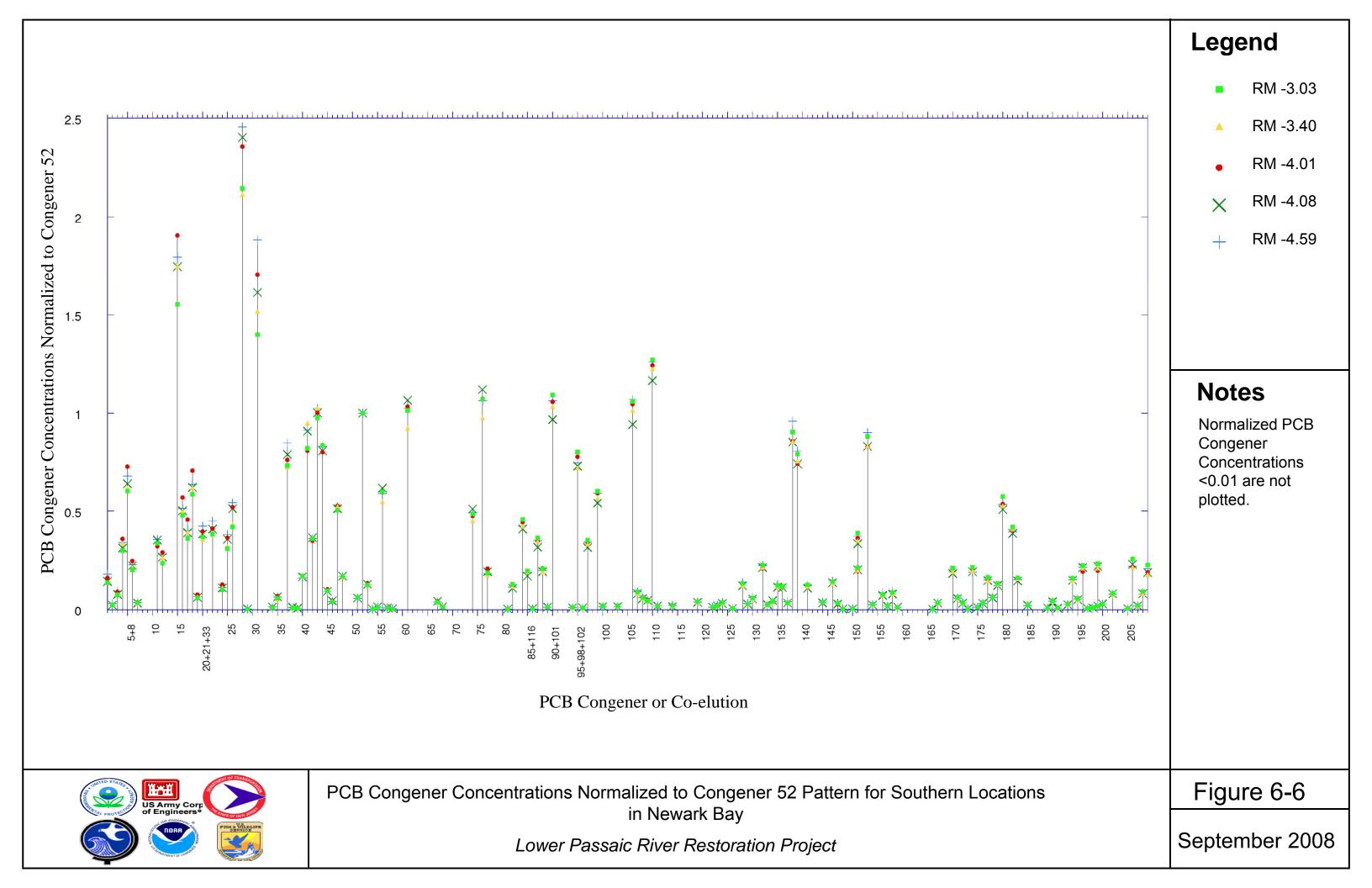
Correlation Among the Sampling Locations of PCB Congeners in Southern Newark Bay Samples

Lower Passaic River Restoration Project

Figure 6-3







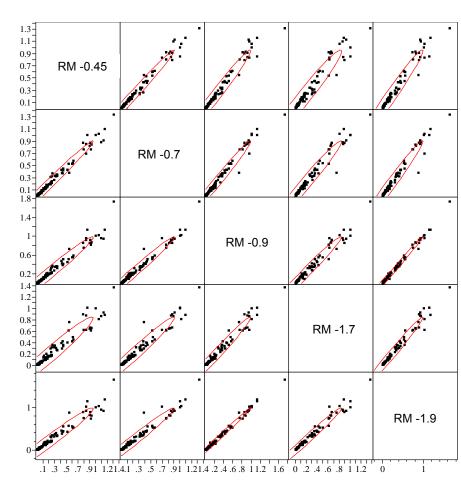
#### **Multivariate Correlations**

	NB01SED061 (RM-0.45)	NB01SED052 (RM-0.71)	NB01SED055 (RM-0.94)	NB01SED046 (RM-1.7)	NB01SED047 (RM-1.9)
NB01SED061 (RM-0.45)	1.0000	0.9906	0.9830	0.9704	0.9778
NB01SED052 (RM-0.71)	0.9906	1.0000	0.9882	0.9796	0.9831
NB01SED055 (RM-0.94)	0.9830	0.9882	1.0000	0.9852	0.9967
NB01SED046 (RM-1.7)	0.9704	0.9796	0.9852	1.0000	0.9880
NB01SED047 (RM-1.9)	0.9778	0.9831	0.9967	0.9880	1.0000

# Legend

**PCB Congeners Concentration Normalized** to Congener 52

### **Scatterplot Matrix**



# **Notes**

In this presentation, river miles for the Newark Bay sampling locations are assigned with respect to the distance from the mouth of the Lower Passaic River (RM0.0) and following the federal navigation channel.

Data Source: 2005 Tierra Solutions, Inc. (TSI) Remedial Investigation Phase 1 dataset.









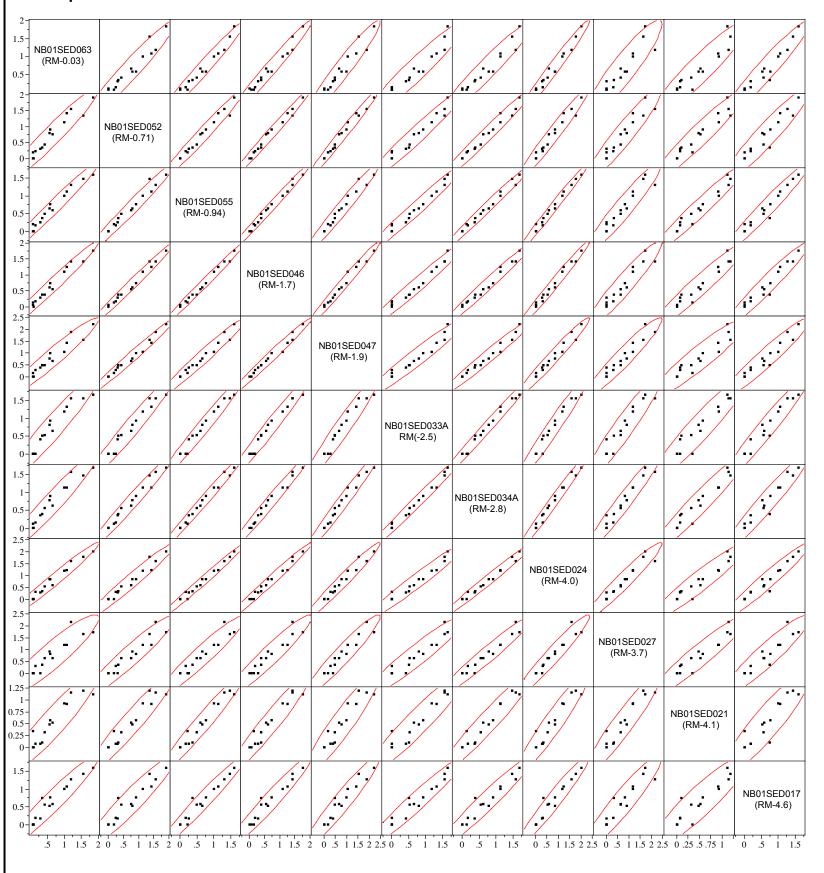
Correlation Among Sampling Locations of PCB Congeners Concentration Normalized to Congener 52 in Northern Newark Bay Samples

Lower Passaic River Restoration Project

Figure 6-7

Multivariate Correlations											
	NB01SED06 3 (RM-0.03)	NB01SED05 2 (RM-0.71)	NB01SED05 5 (RM-0.94)	NB01SED04 6 (RM-1.7)	NB01SED04 7 (RM-1.9)	NB01SED03 3A RM(-2.5)	NB01SED03 4A (RM-2.8)	NB01SED02 4 (RM-4.0)	NB01SED02 7 (RM-3.7)	NB01SED02 1 (RM-4.1)	NB01SED01 7 (RM-4.6)
NB01SED063 (RM-0.03)	1.0000	0.9625	0.9811	0.9820	0.9627	0.9565	0.9634	0.9823	0.9171	0.9360	0.9594
NB01SED052 (RM-0.71)	0.9625	1.0000	0.9823	0.9899	0.9877	0.9740	0.9831	0.9752	0.9485	0.9570	0.9474
NB01SED055 (RM-0.94)	0.9811	0.9823	1.0000	0.9923	0.9780	0.9831	0.9904	0.9903	0.9536	0.9716	0.9725
NB01SED046 (RM-1.7)	0.9820	0.9899	0.9923	1.0000	0.9875	0.9812	0.9866	0.9872	0.9508	0.9615	0.9678
NB01SED047 (RM-1.9)	0.9627	0.9877	0.9780	0.9875	1.0000	0.9673	0.9821	0.9771	0.9534	0.9349	0.9562
NB01SED033 A RM(-2.5)	0.9565	0.9740	0.9831	0.9812	0.9673	1.0000	0.9904	0.9747	0.9505	0.9479	0.9685
NB01SED034 A (RM-2.8)	0.9634	0.9831	0.9904	0.9866	0.9821	0.9904	1.0000	0.9880	0.9708	0.9612	0.9651
NB01SED024 (RM-4.0)	0.9823	0.9752	0.9903	0.9872	0.9771	0.9747	0.9880	1.0000	0.9625	0.9490	0.9663
NB01SED027 (RM-3.7)	0.9171	0.9485	0.9536	0.9508	0.9534	0.9505	0.9708	0.9625	1.0000	0.9450	0.9345
NB01SED021 (RM-4.1)	0.9360	0.9570	0.9716	0.9615	0.9349	0.9479	0.9612	0.9490	0.9450	1.0000	0.9128
NB01SED01 7 (RM-4.6)	0.9594	0.9474	0.9725	0.9678	0.9562	0.9685	0.9651	0.9663	0.9345	0.9128	1.0000





## Legend

PAH Compounds
Normalized to
Dieldrin

### **Notes**

PAH Compounds normalized to dieldrin.

In this presentation, river miles for the Newark Bay sampling locations are assigned with respect to the distance from the mouth of the Lower Passaic River (RM0.0) and following the federal navigation channel.

Data Source:2005 Tierra Solutions, Inc. (TSI) Remedial Investigation Phase 1 dataset.

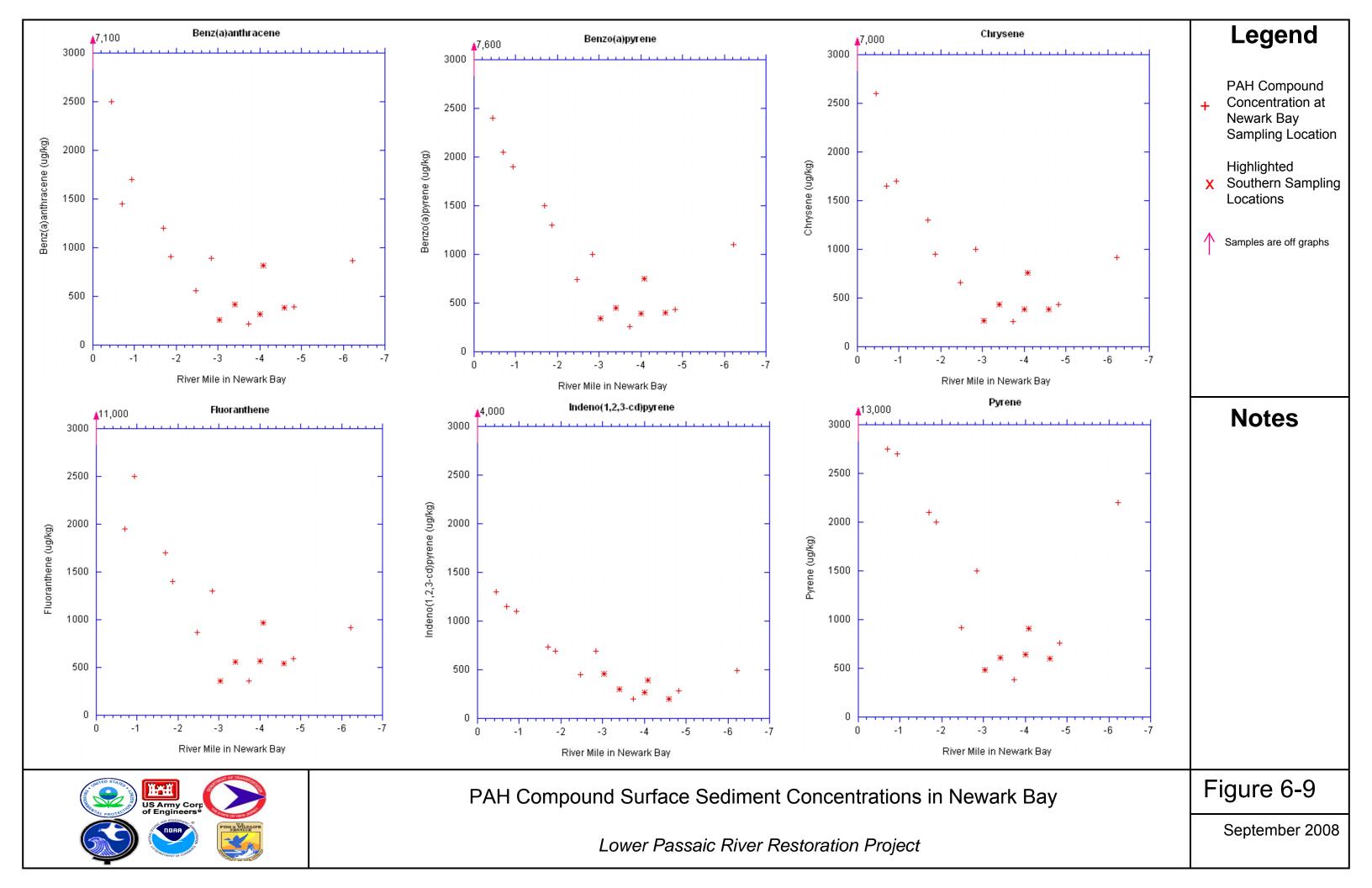


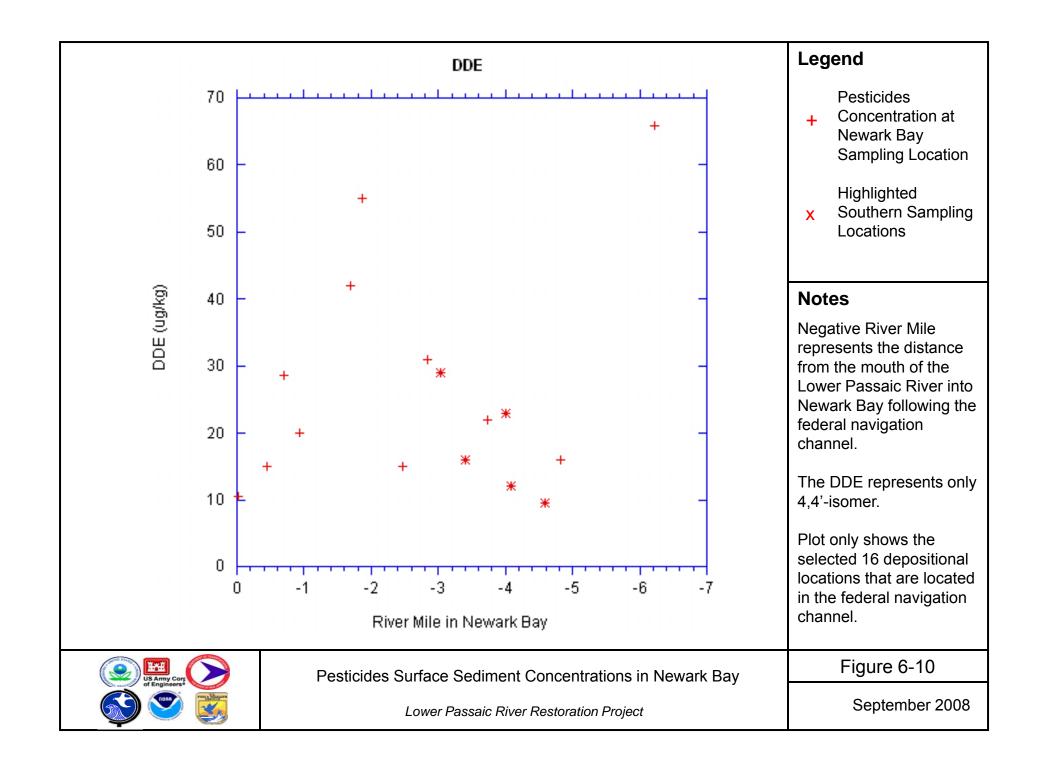


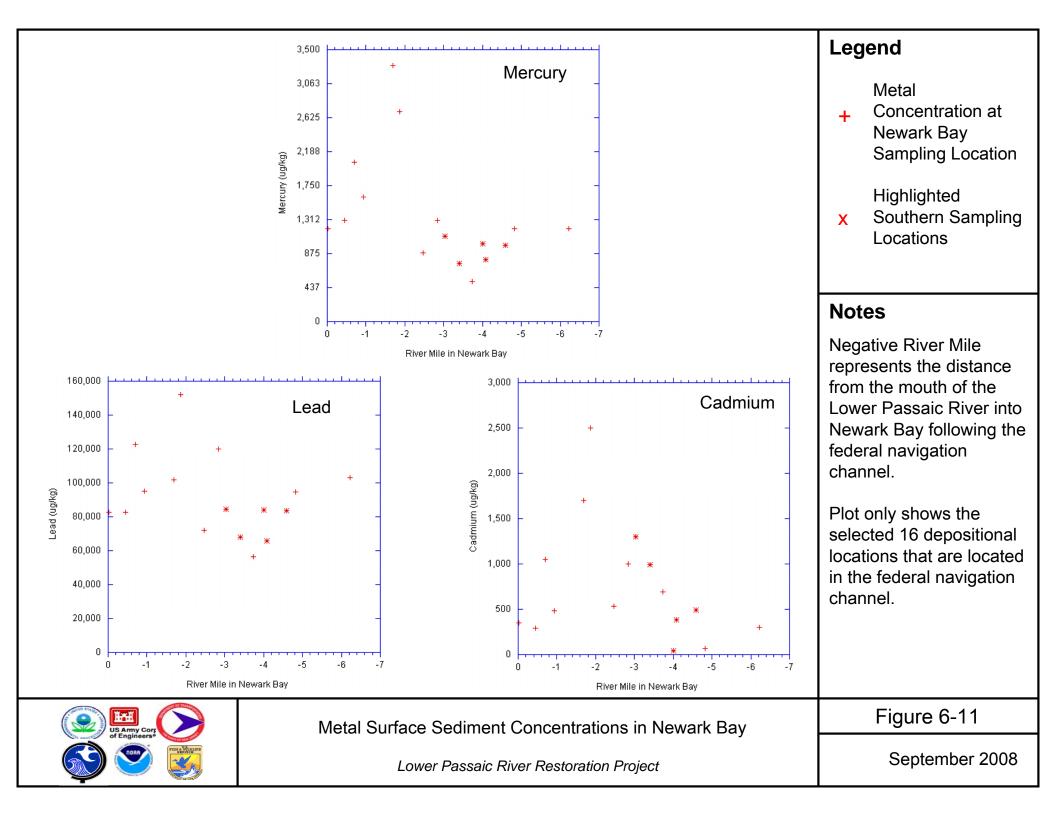


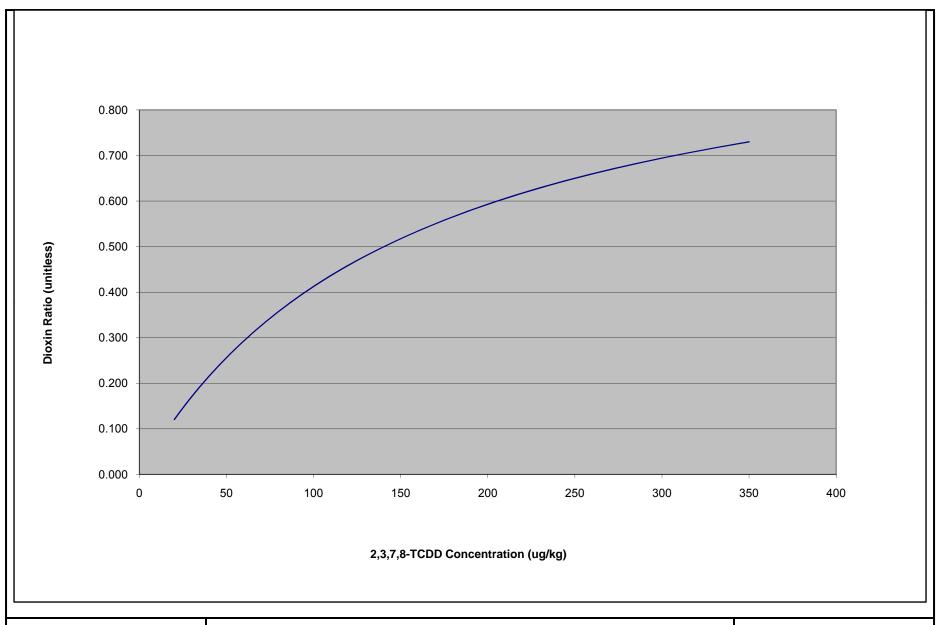


Figure 6-8







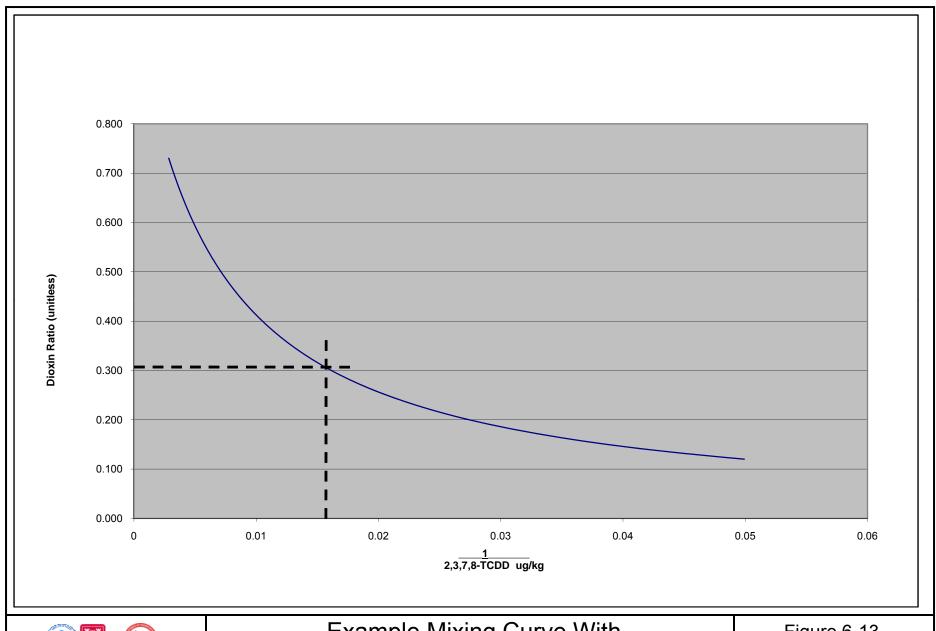




Example Two-End-Member Mixing Curve

Lower Passaic River Restoration Project

Figure 6-12

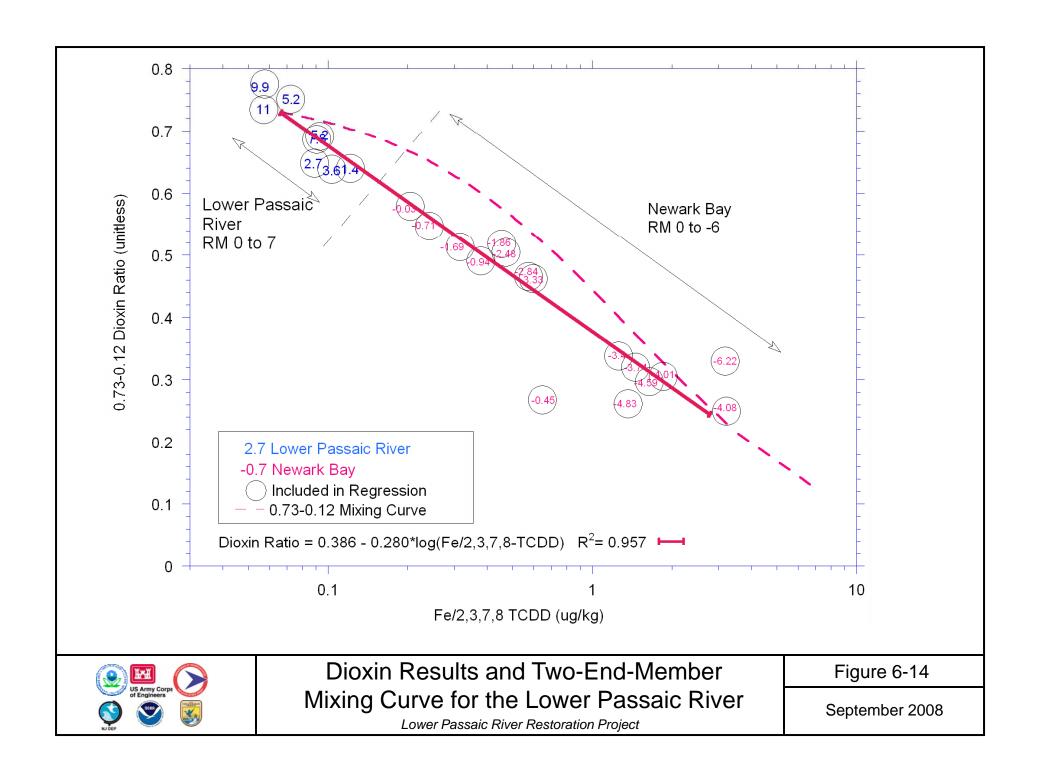


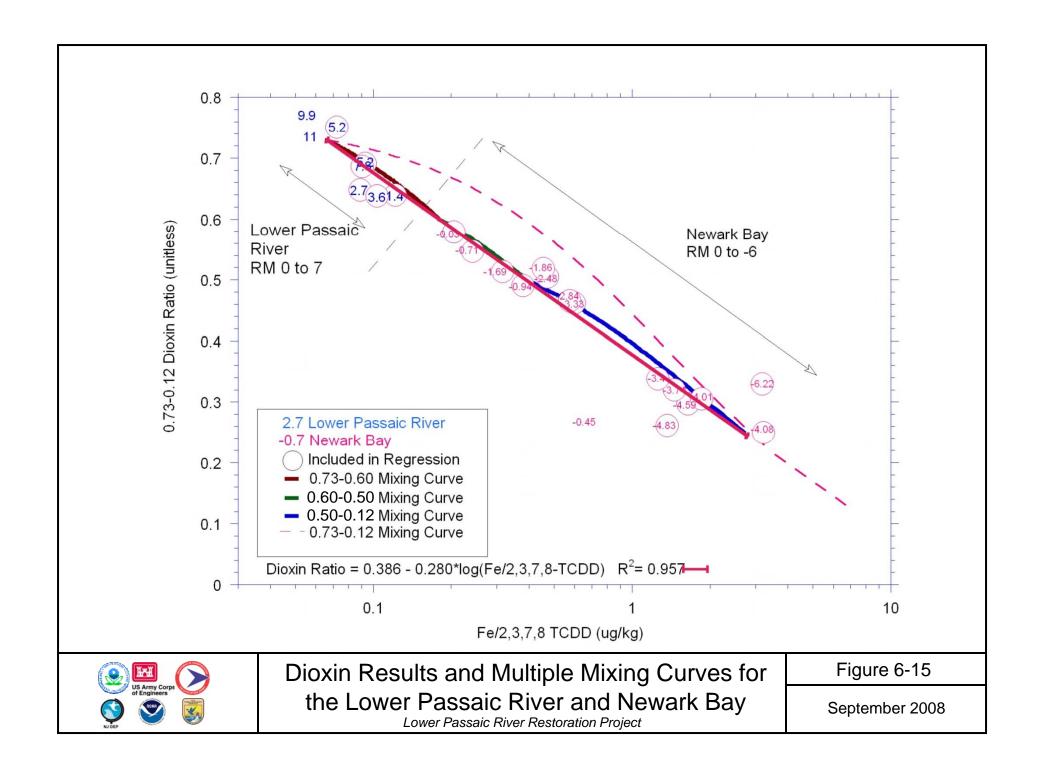


**Example Mixing Curve With** Reciprocal Concentration

Lower Passaic River Restoration Project

Figure 6-13





Chapter 7 Figures

